I-10 Eastbound Truck Climbing Lane Improvement Project

CITIES OF YUCAIPA AND CALIMESA
SAN BERNARDINO AND RIVERSIDE COUNTIES, CALIFORNIA
08-SBd-10-PM 36.4/R39.2
08-RIV-10-PM R0.0/R0.2
PN 0815000050/EA 08-1F7600

Draft Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment



Prepared by the
State of California Department of Transportation
and
San Bernardino County Transportation Authority

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

June 2020

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General Information about This Document

What's in this Document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Bernardino County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What You Should Do:

- Please read this document.
- Additional copies of this document and the related technical studies are available for review at the following locations:
    - SBCTA, 1170 W 3rd Street, 2nd Floor, San Bernardino, California 92410-1715 (Available for review on weekdays during normal business hours from 8 a.m. to 5 p.m. Please call SBCTA at (909) 884-8276 to confirm availability of hard copies for review).
    - City of Yucaipa Department of Public Works, 34272 Yucaipa Boulevard, Yucaipa, California 92399 (Available for review Monday through Thursday from 7:30 a.m. to 5:30 p.m., and Friday from 8 a.m. to 5 p.m. Please call the City of Yucaipa at (909) 797-2489 to confirm availability of hard copies for review).

This document may be downloaded at the following website https://www.gosbcta.com/project/i-10-truck-climbing-lane/.

- Attend the virtual public hearing. To maintain social distancing requirements set forth by the federal and state government, and local agencies, the public hearing will be held on the Zoom platform on Wednesday, July 15, 2020. Please refer to the project website referenced above for further information regarding this virtual public hearing.
- We'd like to hear what you think. If you have any comments about the proposed project, please attend the public hearing and/or send your written comments to Caltrans by the deadline.

- Send comments via postal mail to:

  Antonia Toledo, Senior Environmental Planner

  California Department of Transportation, District 8

  Environmental Studies D

  464 West 4th Street, 6th Floor, MS 820

  San Bernardino, CA 92401–1400

- Send comments via email to: D8.1F760.Comments@dot.ca.gov
- Be sure to send comments by the deadline: August 3, 2020

What Happens Next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA, may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, Caltrans could design and construct all or part of the project.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to SBCTA, Attn: Tim Watkins, 1170 West 3rd Street, 2nd Floor, San Bernardino, CA 92410–1715; (909) 884-8276 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

SCH# _____

08-SBd-10-PM 36.4/R39.2

08-RIV-10-PM R0.0/R0.2

EA: 08-1F7600

Project No. 0815000050

Interstate 10 Eastbound Truck Climbing Lane Improvement Project
(Postmile 36.4 to R39.2 and R0.0 to R0.2) in the Cities of Yucaipa and Calimesa,
San Bernardino and Riverside Counties, California.

Draft Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S.C. 4332(2)(c)

THE STATE OF CALIFORNIA
Department of Transportation
and
San Bernardino County Transportation Authority

6/29/2020
Date of Approval

David Bricker
Deputy District Director
California Department of Transportation
CEQA & NEPA Lead Agency

The following persons may be contacted for more information about this document:

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans), proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate 10 (I-10) from its current terminus, at the existing EB off-ramp to the Live Oak interchange, to east of the County Line Road EB off-ramp, at the San Bernardino County and Riverside County line. I-10 serves as the major east/west urban corridor and commuter route between Los Angeles and San Bernardino and Riverside Counties. Rural areas in eastern Riverside County are connected to the urban centers to the west via the I-10.

Two alternatives are being evaluated as part of the I-10 EB TCL Improvement Project (Project): Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative). Alternative 2 (Build Alternative) proposes to extend the existing TCL for an additional 3 miles to improve operations by separating slow-moving vehicles from faster moving passenger cars on a portion of EB I-10 with sustained grades of up to 4 percent. The proposed improvements along I-10 are from Postmile (PM) 36.4 to R39.2 in the City of Yucaipa in San Bernardino County and PM R0.0 to R0.2 in the City of Calimesa in Riverside County.

Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is the Department's intent to adopt an MND for this Project. This does not mean that Caltrans' decision regarding the Project is final. This MND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed Project would not have a significant effect on the environment for the following reasons:

The proposed Project would have no effect on Agriculture and Forest Resources, Land Use and Planning, Cultural Resources, Mineral Resources, Population and Housing, and Recreation.

In addition, the proposed Project would have less than significant effects to Aesthetics, Air Quality, Biological Resources, Energy, Hazardous and Hazardous Materials, Hydrology and Water Quality,

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Noise, Public Services, Transportation, Tribal Cultural Resources, Utilities and Service Systems, Greenhouse Gas, and Wildfire, with the implementation of the avoidance and minimization measures.

With the following mitigation measure incorporated, the proposed Project would have less than significant effects on: Geology and Soils.

PAL-1 SBCTA will ensure a paleontological mitigation plan is prepared by a qualified Project Paleontologist/Principal Investigator prior to completion of the final design phase of this Project for all Project-related ground disturbance in areas of paleontological sensitivity. All elements of the paleontological mitigation plan will follow the format published in the Caltrans Standard Environmental Reference (SER). The paleontological mitigation plan will detail the measures to be implemented and include a requirement for Worker's Environmental Awareness Program (WEAP) training to address the required interfacing of paleontological and construction personnel.

_____ _____

David Bricker Date
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation

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1 Proposed Project

1.1 Introduction

1.2 NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of five years. In summary, the Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and the Department assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

Caltrans, as assigned by FHWA, is the lead agency under NEPA. Furthermore, Caltrans is the lead agency under CEQA.

SBCTA, in cooperation with Caltrans, proposes to extend the EB TCL on I-10 from its current terminus at the existing EB off-ramp to the Live Oak interchange to east of the County Line Road EB off-ramp at the San Bernardino County and Riverside County line. I-10 serves as the major east/west urban corridor and commuter route between Los Angeles and San Bernardino and Riverside Counties. Rural areas in eastern Riverside County are connected to the urban centers to the west via I-10.

Two alternatives are being evaluated as part of the Project: Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative). Alternative 2 (Build Alternative) proposes to extend the existing TCL for an additional 3 miles to improve operations by separating slow-moving vehicles from faster moving passenger cars on a portion of EB I-10 with sustained grades of nearly 4 percent. The proposed improvements along I-10 are from PM 36.4 to R39.2 in the City of Yucaipa in San

Bernardino County and PM R0.0 to R0.2 in the City of Calimesa in Riverside County. A regional location map is provided on Figure 1-1, while the Project limits are illustrated on Figure 1-2.

The Project is included in the adopted Final 2019 Federal Transportation Improvement Program (FTIP) as Project Identification (ID) 20179901. The Project is funded by the Capacity Enhancing Improvements, Bridge Restoration and Replacement – Lane Addition(s), and Goods movement Program. Other Project funding sources include San Bernardino County Measure I and State Transportation Improvement Program (STIP) Advance Construction Regional Improvement Program (CON-RIP). Total funds programmed for the Project under the adopted 2019 FTIP is approximately $34.6 million (Southern California Association of Governments [SCAG] 2018). The Project is also included in the 2020-2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) adopted by the SCAG Regional Council May 7, 2020 and approved by FHWA/Federal Transit Administration (FTA) on June 5, 2020, and is listed as RTP ID 4122003 (SCAG 2020).

1.3 Project Setting

The Project is bounded by Calimesa Boulevard and Dunlap Boulevard to the north, 17th Street to the west, Calimesa Boulevard/County Line Road to the east, and Outer 10 Highway South/Wildwood Wash/7th Place to the south (Figure 1-2). In the existing condition and within the Project limits, three 12-foot-wide mixed-flow lanes (MFL) and 10-foot-wide inside and outside asphalt shoulders are located in the EB and westbound (WB) roadbeds of I-10. The EB and WB roadbeds are separated by a 36-foot-wide median with a dual metal thrie beam barrier.

The Project is located primarily in southern San Bernardino County in the City of Yucaipa, with a small section extending into northern Riverside County in the City of Calimesa. The portion of I-10 within the Project limits crosses Wilson Creek/Oak Glen Creek, Yucaipa Creek, and Wildwood Wash/Wildwood Creek. The Project is located within a suburban setting with commercial, commercial/industrial, open space, and some residential land uses adjacent to the Project limits. Sensitive noise receptors include residential areas, schools, hospitals, other health care facilities, child/day care facilities, parks, and playgrounds. Sensitive receptors surrounding the Project limits for which noise abatement was considered include residential uses (mobile homes and rural farmland properties with residential uses) and recreational uses. The closest sensitive land uses to the Project limits are residential uses located approximately 65 to 80 feet from the Project construction areas.

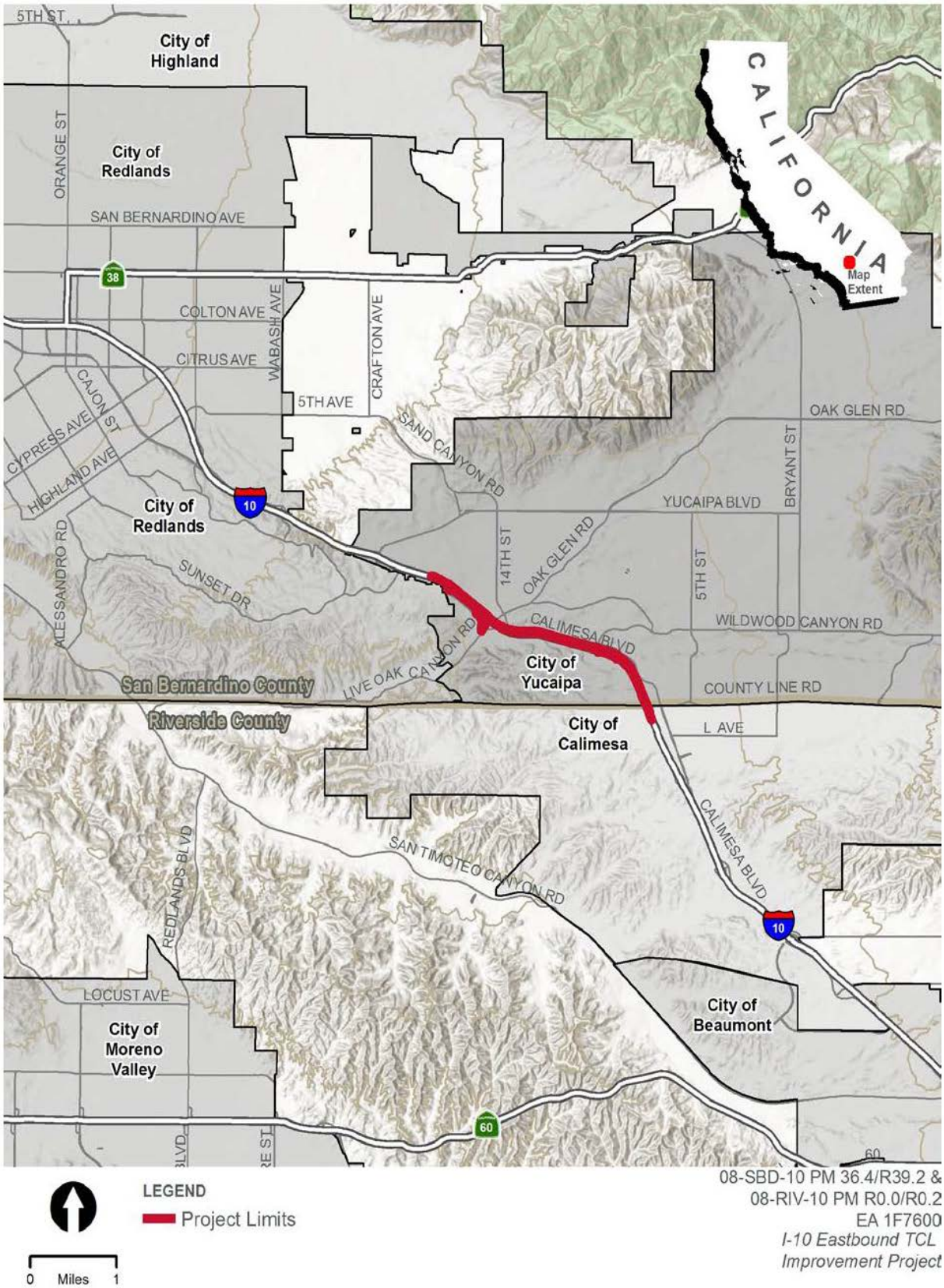


Figure 1-1. Regional Location and Project Vicinity

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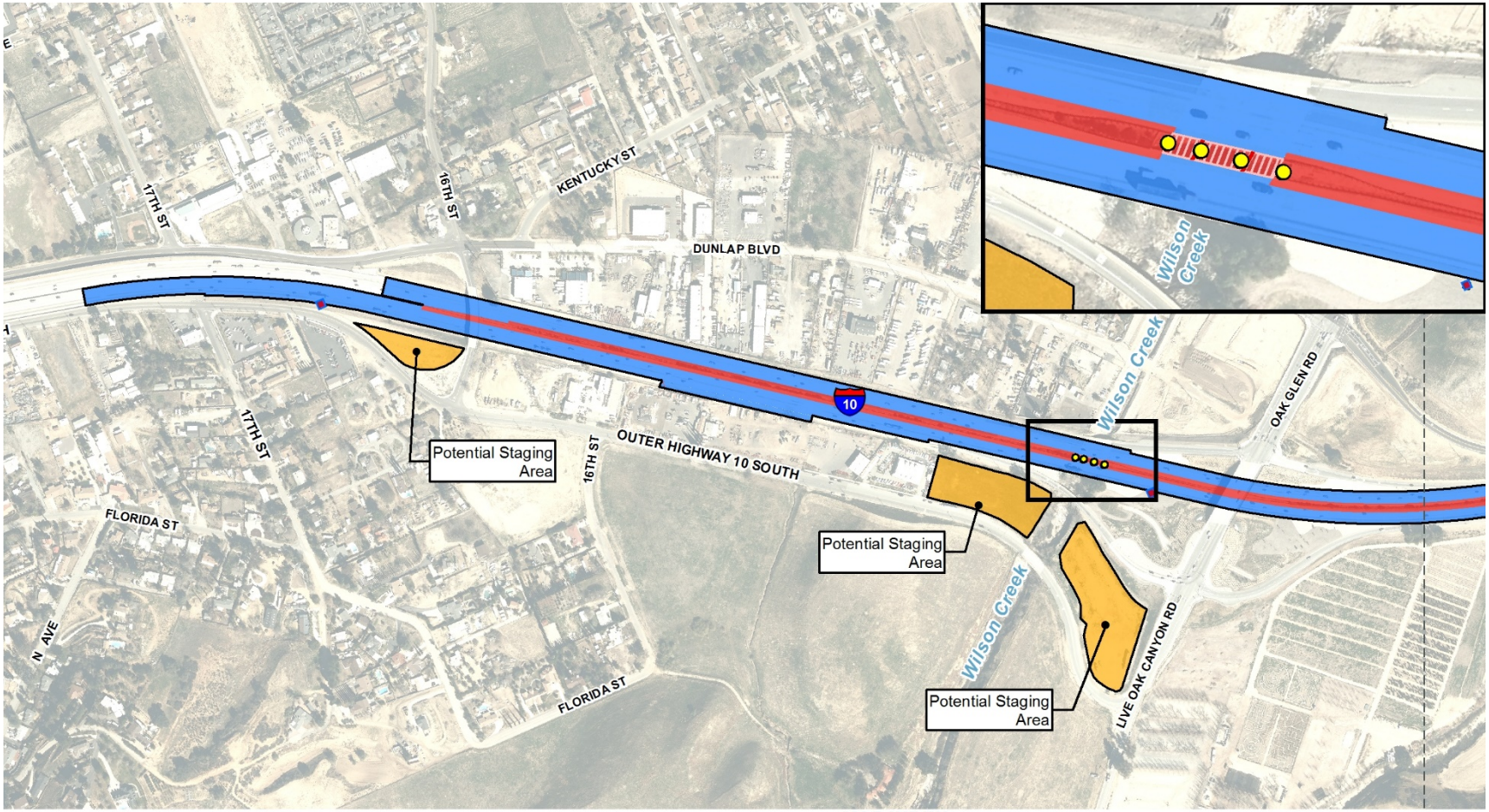


Figure 1-2. Project Limits
(Sheet 1 of 3)

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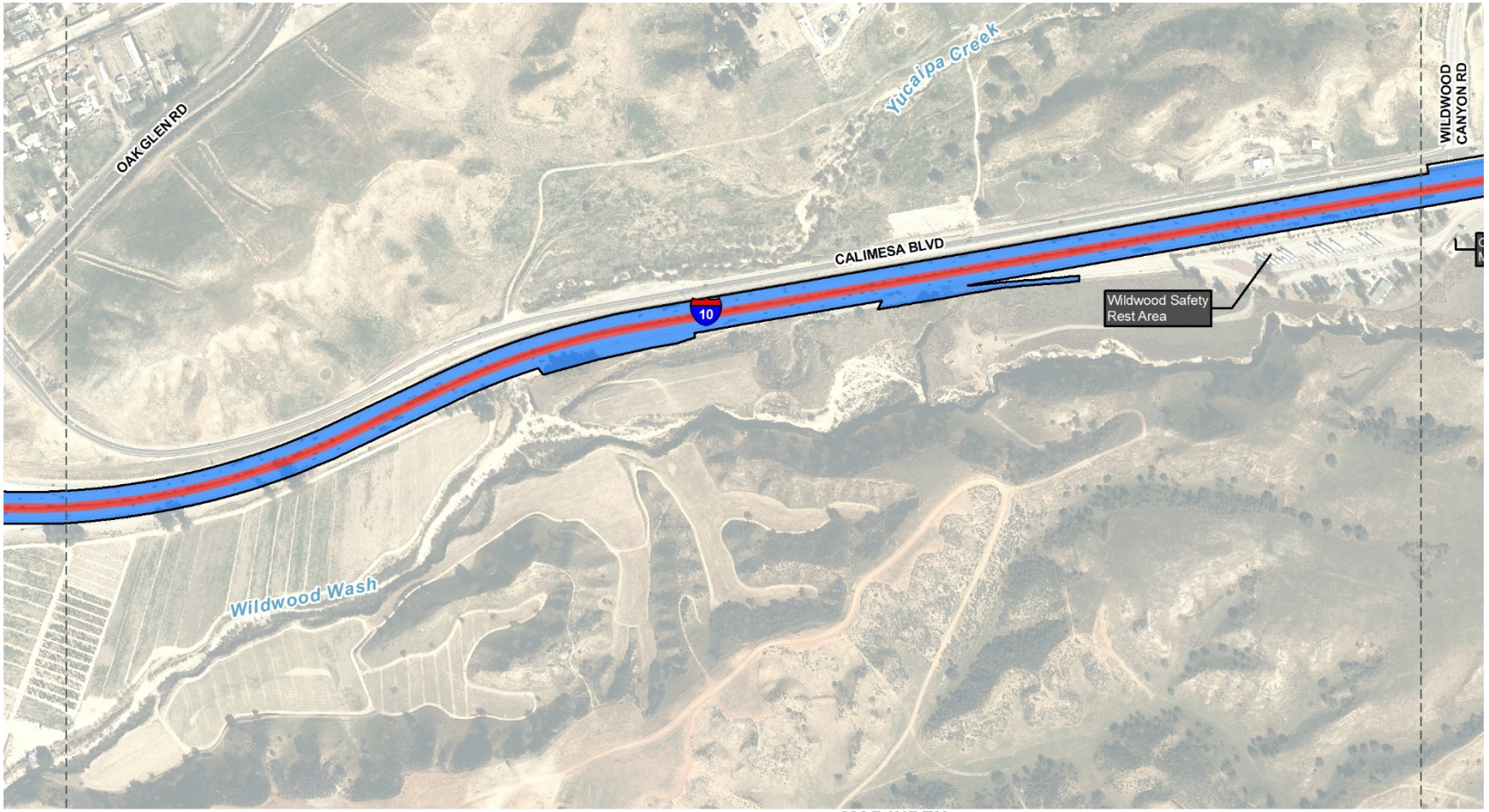


Figure 1-2. Project Limits
(Sheet 2 of 3)

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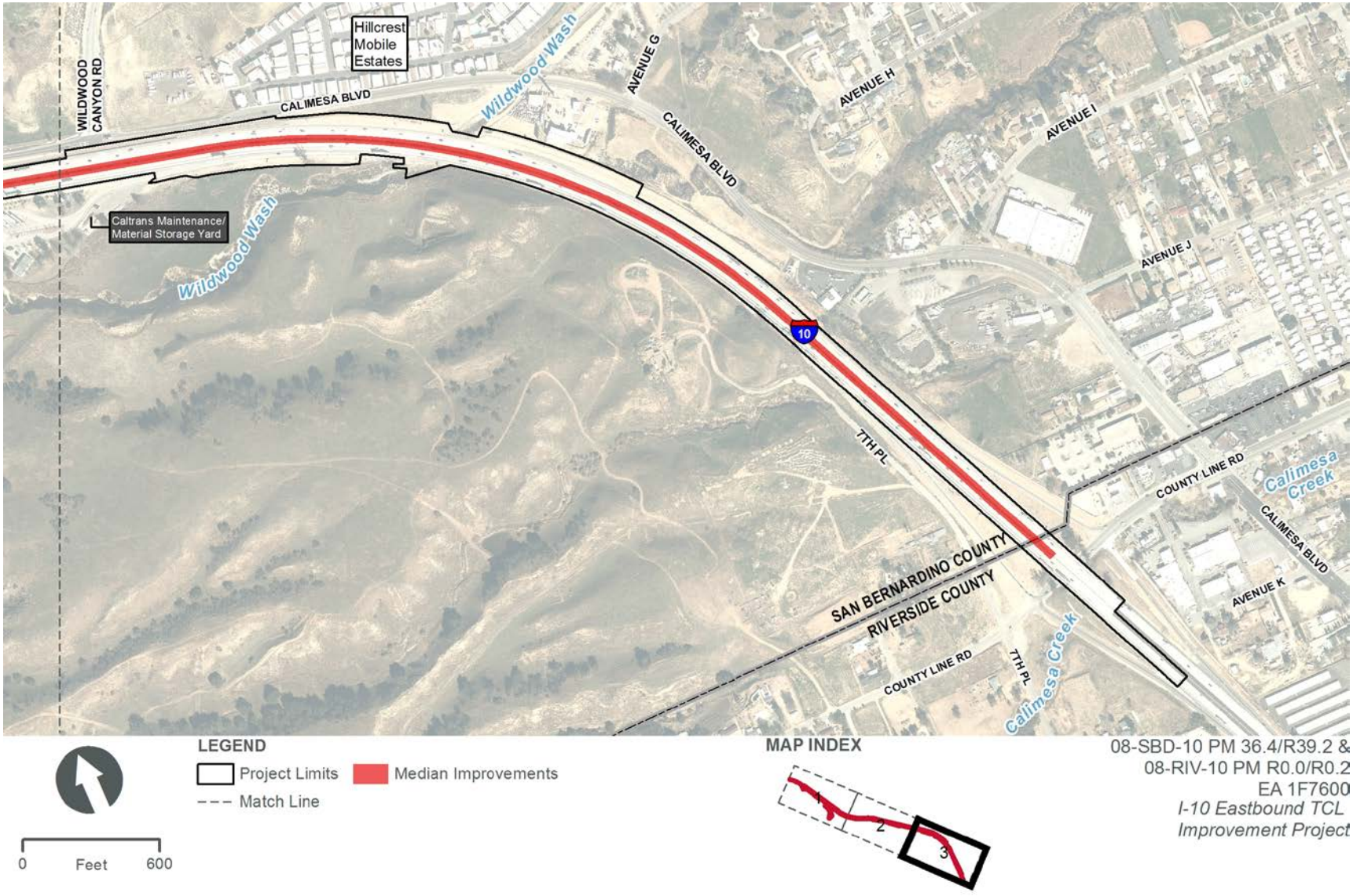


Figure 1-2. Project Limits
(Sheet 3 of 3)

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1.4 Purpose and Need

1.4.1 Purpose of the Project

The purpose of the Project is to improve operational characteristics by separating trucks and other slow-moving vehicles from faster moving passenger vehicles on an additional portion of EB I-10 that includes steep uphill grades. By providing a dedicated climbing lane, it is expected that the conflicts between slow- and fast-moving vehicles will be reduced, resulting in improved traffic operations.

1.4.2 Need for the Project

Trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slower moving trucks.

A large volume of commercial trucks travel through the Project limits. According to the *Project Study Report* (PSR)/*Project Development Support* (PDS) (Caltrans 2017a) prepared for the Project, average daily traffic (ADT) truck volumes in 2016 along I-10 within the Project limits make up 16 percent of the total volume of vehicle traffic. Truck accident frequency can be correlated to increase with differential in speed between trucks and faster moving vehicles; therefore, climbing lanes are advantageous when excessive speed differentials exist. Improvements along EB I-10 within the Project limits are needed to reduce weaving and improve efficiency for motorists.

In summary, per the Traffic Operations Analysis Report (TOAR) (Caltrans 2018a) prepared for the Project, the following conditions warrant adding the TCL:

- The running speed of trucks falls 10 miles per hour or more below the running speed of remaining traffic.
- The critical length of grade is less than the length of grade being evaluated.
- The sustained upgrades are greater than 2 percent if the total rise is greater than 250 feet.
- The existing level of service (LOS) for the upgrade is equal to or better than LOS D.
- The addition of the TCL improves traffic operations and the LOS by one grade.

1.4.2.1 Traffic Accidents

Traffic accident data was collected from Caltrans' Traffic Accident Surveillance and Analysis System (TASAS) for a 3-year period from December 1, 2016, through November 30, 2019, for I-10 EB mainline segments and ramps within the Project limits (Yucaipa Boulevard to County Line Road). Accident data presented in Table 1-1 shows the number of actual fatal, fatal plus injury, and total collision rates on the freeway mainline and ramps within the Project limits in comparison with the statewide average collision rates on similar facilities. As shown in Table 1-1, collision rates at three out of eight analyzed locations are higher than the statewide average for similar facilities. Among the three locations, the on- and off-ramps to the Wildwood rest area have specific collision rates that are more than double the statewide average rates.

Table 1-1. Freeway Mainline and Ramps Accident Data for Interstate 10 Eastbound

Location	PM	Actual Collision Rates[a]			Statewide Average Collision Rates[a]		
		F	F+I	T	F	F+I	T
Mainline between 16th Street and County Line Road	36.4–R39.2	0.000	0.28	0.81	0.004	0.29	0.89
Off-ramp to Live Oak Canyon Road	36.9	0.000	0.17	0.69	0.004	0.32	0.92
On-ramp from Live Oak Canyon Road	R37.2	0.000	0.00	0.23	0.002	0.21	0.60
Off-ramp to Wildwood rest area	38.0	0.000	0.00	**1.83**	0.001	0.06	0.61
On-ramp from Wildwood rest area	38.3	0.000	0.00	**0.50**	0.000	0.02	0.23
Off-ramp to County Line Road	39.0	0.000	0.27	**0.94**	0.004	0.32	0.92
Mainline between County Line Road off-ramp and on-ramp	R0.0–R0.2	0.000	0.00	0.02	0.002	0.14	0.44
On-ramp from County Line Road	R0.2	0.000	0.00	0.00	0.002	0.21	0.60

Source: Electric traffic collision data received from Caltrans District 8. January 8, 2020.

Notes:

[a] For mainline sections, the collision rate is the number of collisions per million vehicle-miles. For ramps, the collision rate is the number of collisions per million vehicles.

Bold indicates an actual collision rate that is higher than the average collision rate.

F=fatal; I=injury; PM=postmile; T=total

Table 1-2 summarizes the percentage by collision type within the Project limits. Rear-end and side-swipe collisions, which are the largest percentage of collisions, are typically related to traffic congestion and speed differentials between passenger cars and trucks.

Table 1-2. Freeway Mainline and Ramps Collision Type for Interstate 10 Eastbound

Location[a]	PM	Rear End (%)	Side-Swipe (%)	Hit Object (%)	Others[b] (%)
Mainline between 16th Street and County Line Road	36.4–R39.2	51	31	14	4
Off-ramp to Live Oak Canyon Road	36.9	50	13	0	37
On-ramp from Live Oak Canyon Road	R37.2	0	100	0	0
Off-ramp to Wildwood rest area	38.0	0	75	0	25
On-ramp from Wildwood rest area	38.3	0	0	0	100
Off-ramp to County Line Road	39.0	86	14	0	0
Mainline between County Line Road off-ramp and on-ramp	R0.0–R0.2	0	100	0	0

Source: Electric traffic collision data received from Caltrans District 8. January 8, 2020.

Notes:

[a] Total percentages for each location may exceed 100 percent due to rounding to the nearest whole number.

[b] Other collision types include head-on, broadside, overturn, auto-pedestrian, and other collisions.

PM=postmile

1.4.3 Independent Utility and Logical Termini

The Project would extend the EB TCL on I-10 from its current terminus at the existing EB off-ramp to the Live Oak Interchange to east of the County Line Road EB off-ramp at the San Bernardino County and Riverside County line. The Project limits serve as logical termini or rational end points for transportation improvements and are sufficient to evaluate the environmental impacts of the proposed improvements. If other planned transportation projects are not constructed, the Project would still address the need to enhance operations and mobility along the 3-mile stretch identified for the EB TCL, which is expected to improve safety as a result. As such, the Project is considered to have independent utility.

1.5 Project Description

As shown previously on Figure 1-2, the Project limits on I-10 extend from the eastern abutment of Shoemaker Bridge at the Los Angeles River to the 10th Street off-ramp (PM 6.0 to PM 6.4). The Project proposes to improve operational characteristics of EB I-10 by separating trucks and other slow-moving vehicles from faster moving passenger vehicles on an additional portion of EB I-10 that includes steep uphill grades.

SBCTA, in cooperation with Caltrans, proposes to extend the EB TCL on I-10 from approximately the Live Oak Interchange to just east of the County Line Road existing EB off-ramp at the San Bernardino County and Riverside County line. The Project location is previously shown on Figure 1-1. Two alternatives are being evaluated as a part of the Project: Alternative 1 (No Build Alternative) and Alternative 2 (Build Alternative). Alternative 2 (Build Alternative) would add a TCL along EB I-10 in the City of Yucaipa from the 16th Street Overcrossing Bridge to 0.2 mile east of the County Line Road Undercrossing Bridge by paving the existing median. Additionally, Alternative 2 (Build Alternative) would replace the existing center barrier in the center median, restripe I-10 EB to accommodate the additional MFL and EB TCL, install additional signing, upgrade existing drainage facilities, and add or replace existing signing and striping.

The Project limits are located within Caltrans and City of Yucaipa right-of-way (ROW). The areas within and immediately adjacent to the Project are predominately undeveloped land and consist of designated open space, residential, and commercial land uses. All project work would occur within Caltrans ROW with the exception of select temporary construction easements (TCE) designated for staging areas. Further discussion of the two alternatives are detailed below.

1.5.1 Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would maintain the facility in its existing condition; therefore, no capital cost is associated with this alternative. As growth in the surrounding communities continue and the traffic demand increases, traffic operational characteristics would further deteriorate, resulting in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating speeds on the freeway. Alternative 1 (No-Build Alternative) would not accommodate or alleviate the existing and forecasted operational and mobility issues and would not satisfy the Project purpose and need.

1.5.2 Alternative 2 (Build Alternative)

Alternative 2 (Build Alternative) proposes improvements along I-10 from PM 36.4 to R39.2 in the City of Yucaipa in San Bernardino County and PM R0.0 to R0.2 in the City of Calimesa in Riverside County. The improvements associated with Alternative 2 (Build Alternative) would occur within existing Caltrans and City of Yucaipa's ROW.

Alternative 2 (Build Alternative) would add a TCL along EB I-10 in the City of Yucaipa from the 16th Street overcrossing bridge to 0.2 mile east of the County Line Road undercrossing bridge by paving the existing dirt median and adding a concrete barrier to divide the EB and WB roadbeds. The proposed striping would shift the existing three EB MFLs to the inside, so that Lane No. 1 would be located along the improved median and the existing outside lane would be converted to a TCL to provide a continuation to the TCL that currently ends at the Live Oak Canyon Road off-ramp. Alternative 2 (Build Alternative) maintains the existing horizontal and vertical alignments of the EB I-10 corridor and would also include the following components:

- Widening Oak Glen Creek Bridge (No. 54-0648) to close the gap between the EB and WB roadbeds
- Removing the existing inside asphalt concrete shoulders from the EB and WB roadbeds and pave the entire median (36 feet) width with jointed plain concrete pavement (JPCP)
- Striping to add one interior EB lane in the newly paved median, which would become Lane No. 1 for mixed flow operation
- Restriping the existing inside EB MFL to become the middle EB MFL (Lane No. 1 becomes Lane No. 2)
- Restriping the existing middle EB MFL to become the outside EB MFL (Lane No. 2 becomes Lane No. 3)
- Designating the existing outer most EB MFL (Lane No. 3) as the dedicated EB TCL through pavement striping and additional signing
- Restriping the WB lanes after completion of median improvements with no changes to the existing lane configuration
- Implementing drainage system upgrades, such as drain inlet extensions along I-10 and best management practices (BMP)
- Adding or replacing existing signage and striping

Alternative 2 (Build Alternative) would improve the existing operational characteristics for truck and other slow-moving vehicles along I-10 within the Project limits. All Project work would occur within Caltrans ROW with the exception of two TCEs required for construction staging areas.

Three construction staging areas are proposed: one staging area would be located within Caltrans ROW south of I-10 just west of the 16th street overcrossing, and two staging areas would be located outside of Caltrans ROW on the south-west quadrant of the Live Oak Canyon Road interchange between the EB off-ramp and Outer Highway 10 South. These two staging areas would be those currently used by another Caltrans pavement rehabilitation project (Caltrans project reference number 08-0K293) that is expected to be completed before construction for this Project begins. Additional signage locations are identified on Figure 1-2 and are not anticipated to cause ground-disturbance activities exceeding 6 feet in depth and 8 inches in diameter. No utility relocations or ramp modifications are anticipated.

1.5.2.1 Noise Barriers

The *Noise Study Report* (NSR) (Caltrans 2020a) prepared for the Project identified several locations along the EB and WB sides of I-10 with sensitive receptors. According to the NSR, the Project would result in an increase of long-term noise levels within the Project area and affect sensitive receptors; therefore, noise barriers were considered. Where traffic noise impacts are identified, noise abatement must be considered for reasonableness and feasibility, as required by 23 Code of Federal Regulations (CFR) 772 and the *Traffic Noise Analysis Protocol for New Highway Construction and Reconstructions Projects* (Caltrans 2011a). The overall reasonableness of noise abatement is determined by the following three factors: (1) the viewpoints of benefited receptors; (2) cost of noise abatement; and (3) noise reduction design goal. The viewpoints of benefited receptors will be determined by a survey conducted during the public circulation period of the Draft Initial Study (IS)/Environmental Assessment (EA).

From the 13 noise barriers analyzed in the *Noise Abatement Decision Report* (Caltrans 2020b) prepared for the Project, it was determined that no noise barriers had a construction cost that was below the total reasonable allowance. Therefore, based on studies completed to date, Caltrans does not intend to incorporate noise abatement as part of the Project.

1.5.2.2 Bridge Widening

Originally constructed in 1964, two parallel, three-span, cast-in-place (CIP) conventionally reinforced concrete T-beam bridges cross over Oak Glen Creek. One bridge is located on the EB roadbed (Bridge No. 54-0648R) and the other bridge on the WB roadbed (Bridge No. 54-0648L) of I-10. These bridges were originally named Wilson Creek Bridges but are now referred to as the Oak Glen

Creek Bridge. Both bridges span 115 feet with two open-end diaphragm abutments and two bents. These bridges are at the western edge of Live Oak Canyon Road interchange. The EB mainline bridge (Bridge No. 54-0648R) has a uniform width of approximately 56.7 feet, while the WB mainline bridge (Bridge No. 54-0648L) is wider at the eastward abutment for the merging Live Oak Canyon Road to WB I-10 on-ramp, with a maximum width of approximately 82 feet.

Widening and combining these existing mainline bridges is proposed by constructing a new structure in the median roughly 20 feet wide with three CIP "T"-beams. This new composite bridge would still have three spans, with an approximate total length of 115 feet. However, this composite bridge would have a new total combined width that varies from approximately 175 feet at the east abutment to 162 feet at the west abutment. New bridge components would likely be supported by extension of existing bridge abutments and pier walls as CIP conventionally reinforced-concrete.

1.5.2.3 Geotechnical Investigation

The Oak Glen Creek Bridge is a three-span bridge over Wilson Creek. During the final design phase, four geotechnical boreholes (Figure 1-2) would be drilled, adjacent to the existing Oak Glen Creek Bridges (between the left and right bridges) to evaluate soil conditions where supporting bridge abutments and pier walls are proposed. A truck-mounted rotary-wash drill rig would be used to drill the four boreholes to approximately 75 feet bgs for the proposed bridge abutment areas and 100 feet bgs for the proposed bridge pier wall (bent) median closures.

Drilling activities are anticipated to occur over the course of 8 working days. The chosen access route to the boring locations would avoid and minimize disturbance to the Wilson Creek streambed, to the greatest extent feasible. Access for the drill-rig at bridge abutments in the median would require removal of a portion of the thrie beam barrier within the existing median. Options for drill rig access into the streambed adjacent to the two bridge bents/piers would include use of existing channel slopes or access ramps (pending ramp gradient, slope stability, and proximity to boring locations); grading a temporary earth ramp; or use of a crane to lower-in a smaller drill-rig from the shoulder, roadside area, adjacent channel maintenance road, or local street (e.g., Dunlap Boulevard).

Although proposed borehole locations for the new bridge abutments would be located outside of the streambed within the I-10 median and Caltrans ROW, borehole locations for bridge pier walls would be located within the streambed near each pier bent, as close as possible to the existing piers along the I-10 centerline at level ground where drill rig access is possible. Geotechnical drilling would occur when there is little to no flow within Wilson Creek, limited to areas located immediately adjacent to existing piers and bents outside of streambed flow. Dewatering in the area of the Oak Glen Creek Bridge is not anticipated during geotechnical boring activities.

1.5.2.4 Design Exceptions

Within the Project limits, there are locations with non-standard design features that do not meet the *Highway Design Manual* (HMD) (Caltrans 2018b) boldface and underlined standards listed below. These design features have been documented in the Project's Design Standard Decision Document approved by Caltrans May 1, 2019.

Boldface Standards	*Underlined Standards*
Stopping Sight Distance	Decision Sight Distance
Standards for Superelevation	Standards for Grade (minimum)
Standards for Grade (maximum)	Vertical Curves (minimum length)
Lane Width	Median Standards (minimum width)
Shoulder Width	

Many of these non-standard features are existing conditions that the Project cannot address due to the limited scope of the proposed improvements. To eliminate these existing non-standard features, major reconstruction of the freeway would be needed to re-grade, re-profile, and widen the existing facility. These activities would also affect and require re-construction of the existing ramp alignments, drainage culverts, and bridge structures located within the limits of the Project.

1.5.3 Alternatives Considered but Eliminated from Further Discussion

1.5.3.1 Transportation System Management and Transportation Demand Management Alternatives

Transportation system management (TSM) strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include ramp metering, auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination. TSM also promotes automobile, public, and private transit; ridesharing programs; and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and mass transit. A TSM alternative would not meet the Project purpose and need. The Project need to improve traffic operations and mobility is not feasible without a new climbing lane for slow-moving trucks and vehicles traveling on I-10 EB up the steep grade. Therefore, a TSM alternative alone would not meet the Project purpose and need.

Transportation demand management (TDM) focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled (VMT), as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation options in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. A typical activity would be providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals. TDM alternative measures alone could not satisfy the Project purpose and need. A TDM alternative would improve mobility by providing alternative modes to increase vehicle occupancy, which are not aligned with the Project need, which is to improve traffic operations and mobility. Therefore, TSM/TDM has been eliminated from further consideration.

1.5.3.2 Reversible Lanes

Assembly Bill 2542, approved by the California State Governor September 23, 2016, requires the department, or a regional transportation planning agency, to demonstrate that reversible lanes were considered for the project when submitting a capacity-increasing project or a major street or highway lane realignment project to the commission for approval.

Reversible lanes are not considered feasible for this Project due to the difference in elevations between the EB and WB roadbeds of the I-10 mainline, as well as the existence of columns in the freeway median supporting the bridges at the 16th Street and Live Oak Canyon Road overcrossings. In addition, since the Project does not propose improvements that would require a substantial amount of new ROW and does not substantially increase traffic capacity, the Project is not required to consider reversible lanes. Therefore, reversible lanes have been eliminated from further consideration.

1.5.3.3 Road Widening

Due to the surrounding suburban, commercial, industrial, residential, and open space land uses along the Project limits, other alternatives, such as outside widening or a combination of outside and inside widening, were not further considered during the Project Initiation Document phase or the Project Approval/Environmental Document (PA/ED) phase. Outside widening would have required additional private property impacts, additional structures modification, extensive earthwork, utility relocations, greater drainage and ramp modifications, additional non-standard design features, and a longer duration for construction activities, which would result in greater impacts on traffic operations along I-10 ramps and local interchanges. In addition, outside widening would also result in greater environmental impacts on biological resources and sensitive noise receptors.

Therefore, no other build alternatives were considered prior to the preparation of this Draft IS/EA.

1.6 Permits and Approvals Needed

Table 1-3 shows the permits, licenses, agreements, and certifications that would be required for construction of the Project.

Table 1-3. Required Permits, Reviews, and Approvals

Permit, Licenses, Agreements, and Certifications	Agency	Status
California Department of Fish and Game Code, Section 1602 Lake and Streambed Alteration Agreement	CDFW	SBCTA will submit the application after approval of this environmental document.
CTC vote to approve funds	CTC	Following the approval of this environmental document, the CTC will be required to vote to approve funding for the Project.
CWA Section 401 Water Quality Certification	RWQCB	SBCTA will submit the application after approval of this environmental document.
CWA Section 404	USACE	SBCTA will submit the application after approval of this environmental document.
Air Quality Conformity Approval Letter	FHWA	The Air Quality Conformity report will be submitted to FHWA after receipt of public comments on the IS/EA. FHWA will make a conformity determination prior to final approval of the IS/EA.
Caltrans NPDES Permit, Statewide Storm Water Permit Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 2012-0011-DWQ as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, Order WQ 2015-0036-EXEC, and Order WQ 2017-0026-EXEC, NPDES No. CAS000003	SWRCB	Caltrans District 8 and SBCTA will ensure compliance with the SWRCB-issued Caltrans NPDES Permit.

Table 1-3. Required Permits, Reviews, and Approvals

Permit, Licenses, Agreements, and Certifications	Agency	Status
NPDES Construction General Permit, Waste Discharges of Storm Water Runoff Associated with Construction Activities, Order No. 2009-0009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ, NPDES No. CAS000002	Santa Ana RWQCB	Caltrans District 8 and SBCTA will apply jointly by preparing a Stormwater Pollution Prevention Plan and submitting an NOI and other permit registration documents prior to any Project construction.
General Waste Discharge Requirements for Discharges to Surface Waters That Pose an Insignificant (De minimis) Threat to Water Quality (Order No. R8-2015-0004, NPDES No. CAG998001)	Santa Ana RWQCB	If dewatering is required, Caltrans District 8 and SBCTA will apply jointly and obtain prior to dewatering activities.

Notes:

Caltrans=California Department of Transportation; CDFW=California Department of Fish and Wildlife; CTC=California Transportation Commission; CESA=California Endangered Species Act; CWA=Clean Water Act; EA=Environmental Assessment; FHWA=Federal Highway Administration; IS=Initial Study; No.=number; NOI=Notice of Intent; NPDES=National Pollutant Discharge Elimination System; RWQCB=Regional Water Quality Control Board; SBCTA=San Bernardino County Transportation Authority; SWRCB=State Water Resources Control Board; USACE=U.S. Army Corps of Engineers

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2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Chapter 2 describes the existing affected environment for the I-10 EB TCL Improvement Project. The affected environment is the base condition on which environmental effects of the alternatives are evaluated in this Draft IS/EA.

The sections in Chapter 2 include the regulatory setting applicable to the environmental topic, the methodology of impact analysis, a description of the affected environment, environmental effects resulting from the Project, and measures to avoid, minimize, or mitigate adverse impacts under Alternative 2 (Build Alternative). Photographs, graphic exhibits, and data matrices are included throughout Chapter 2, where applicable, to support the impact analyses.

NEPA uses the terms “impact,” “effect,” and “consequences” synonymously. For an action to affect the environment, it must have a causal relationship with the environment. NEPA distinguishes three types of causal impacts: direct, indirect, and cumulative. A “cumulative impact” definition is provided, and the contribution of Alternative 2 (Build Alternative) to cumulative effects is analyzed in Section 2.22 of this document. Direct and indirect effects are defined below and analyzed in Sections 2.1 through 2.22 of this document.

- Direct effects are caused by the action and occur at the same time and place (40 CFR 1508.8).
- Indirect effects are caused by the action and occur later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, as well as related effects on air, water, and other natural systems, including ecosystems (40 CFR 1508.8).

CEQA requires Caltrans to identify each “significant effect on the environment” resulting from the project and ways to mitigate each significant impact. Every significant effect on the environment must be disclosed in the environmental document and mitigated, if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance. Chapter 3 discusses the impacts of this Project and CEQA significance.

2.1.1 Topics Considered But Determined Not To Be Relevant

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

- **Farmlands/Timberlands:** According to the Department of Conservation's (DOC) Farmland Mapping and Monitoring Program, there is no farmland within the Project limits or area surrounding the Project limits. There are no areas within the Project limits under Williamson Act contract. The Project would not conflict with existing zoning for agricultural use or conflict with a Williamson Act contract. In addition, the Project is located approximately 3 miles southwest of the foothills of the San Bernardino National Forest. Thus, there is no timberland within the Project limits or area surrounding the Project limits.
- **Coastal Zone:** There will be no effects on coastal resources because the Project is not located within the coastal zone.
- **Wild and Scenic Rivers:** There are no wild and scenic rivers within the Project limits or area surrounding the project limits. The Project is located approximately 18 miles northwest of the Fuller Mill Creek Wild and Scenic River, which is the nearest river designated in the National Wild and Scenic Rivers System.
- **Relocations and Real Property Acquisitions:** The improvements associated with Alternative 2 (Build Alternative) would occur within existing Caltrans and City of Yucaipa ROW. It is expected that any land that may need to be acquired temporarily or permanently would be undeveloped land. Therefore, there would be no impact due to relocations or real property acquisition.
- **National Marine Fisheries Service Jurisdiction:** This project is located outside of National Marine Fisheries Service jurisdiction; therefore, a National Marine Fisheries Service species list is not required, and no effects on National Marine Fisheries Service species are anticipated.

Human Environment

This section discusses and evaluates potential effects on existing and future land uses and consistency with relevant planning programs associated with Project implementation. The analysis is based on a review of aerial mapping and transportation and land use plans.

2.1 Existing and Future Land Use

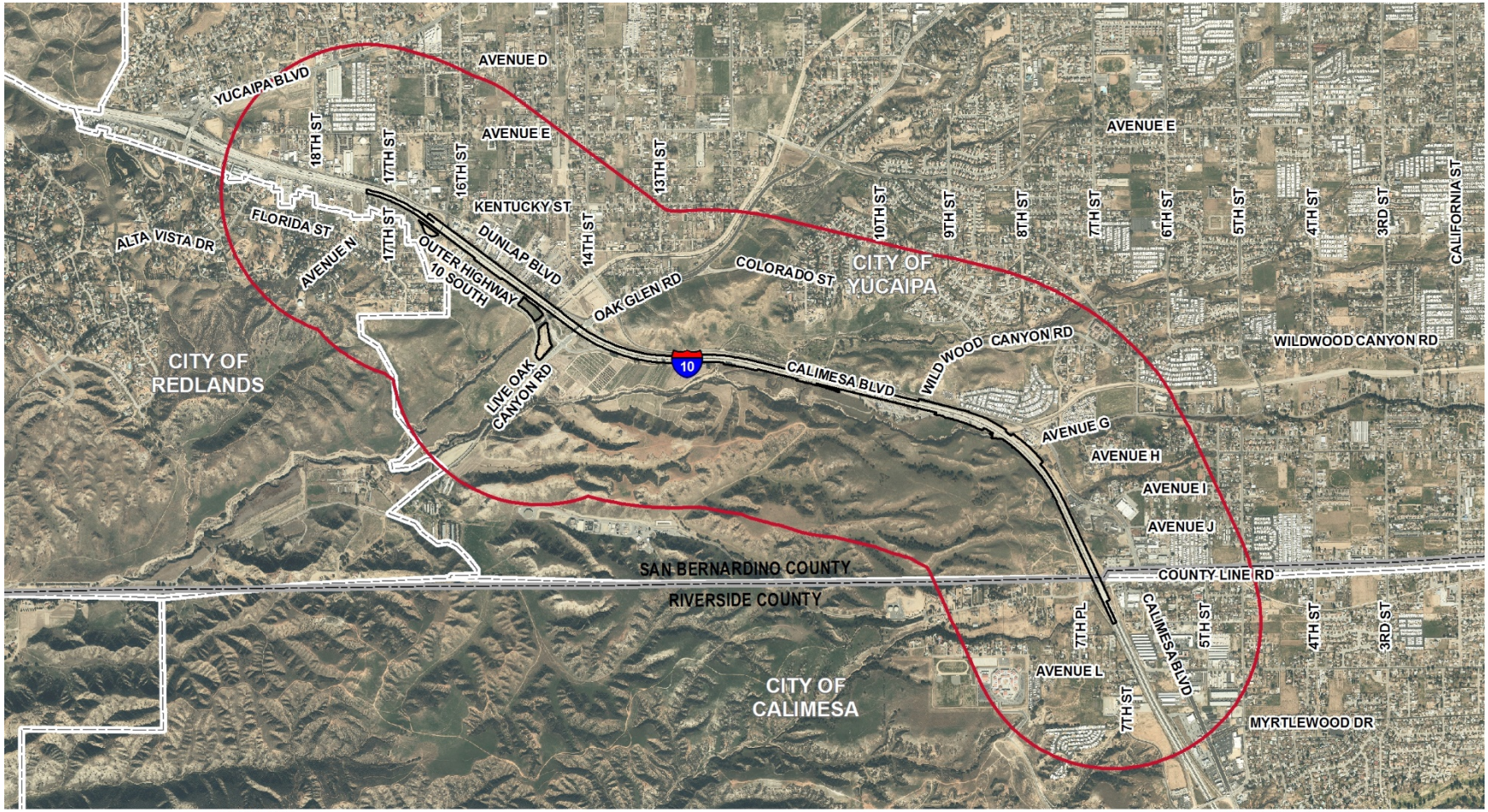
This section addresses potential effects on existing and planned land uses in the Project limits that could result from Project implementation.

2.1.1 Affected Environment

2.1.1.1 Land Use Study Area

The I-10 TCL land use study area is defined as the area within the Project limits and a 0.5-mile buffer. As shown on Figure 2.1-1, the land use study area intersects with the Cities of Yucaipa, Calimesa, and Redlands. The Project is a 3-mile extension of an existing TCL along EB I-10 that traverses primarily within the City of Yucaipa in San Bernardino County and at the north edge of Riverside County, where the Project extends approximately 0.2 mile into the City of Calimesa. Although the land use study area consists of a small portion of the City of Redlands, the Project limits do not extend into the city limits, and no construction would occur within the City of Redlands. The *City of Redlands General Plan 2035* (City of Redlands 2017) was reviewed for relevant goals, policies, and land use information because it is a part of the land use study area.

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LEGEND

Project Limits

Land Use Study Area

0 Feet 3,000

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.1-1. Land Use Study Area

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Existing Land Uses

Existing land uses within the land use study area were determined based on the review of aerial mapping, city general plans, and specific plans. As shown on Figure 2.1-2 through Figure 2.1-4, existing land uses in the land use study area consist of open space, commercial, residential, and industrial uses. Existing land uses for each respective city is provided below and defined in Table 2.1-1.

City of Redlands

As shown on Figure 2.1-2, the existing land uses within the City of Redlands and land use study area include resource preservation and open space. These existing uses are consistent with what is designated within the *City of Redlands General Plan 2035* for planned land uses. Although the Project limits do not extend into the City of Redlands jurisdictional boundaries, a portion of the City of Redlands is within the land use study area, which consists of open space and resource preservation. Resource preservation only allows for limited permitted uses to protect the existing ecology that is important for water conservation. The area is also within the Southern Hills and Canyon area, which is defined by the San Timoteo and Live Oak Canyons (City of Redlands 2017). Development in this area is limited and primarily consists of large single-family homes on large lots and open areas.

City of Yucaipa

As shown on Figure 2.1-3, the majority of the built environment within the land use study area is north of Oak Glen Road and south of Avenue F (Wildwood Canyon Road). In between these two roadways, I-10 traverses undeveloped and vacant land designated for regional commercial (CR) or business park (BP) land uses and through open space (OS2) within the City of Yucaipa. The Dunlap Industrial Corridor is adjacent to the most northern portion of the Project limits. According to the City of Yucaipa's business community, the Dunlap Industrial Corridor is a 150-acre industrial and manufacturing sector in Yucaipa located along the north side of I-10, north of the Oak Glen Boulevard interchange (City of Yucaipa n.d.). The Dunlap Industrial Corridor has convenient access to I-10, Oak Glen Road, and Yucaipa Boulevard interchanges. Other prominent businesses within this area include Sorenson Engineering, Play Toys, Shoein' Shop, and Cal-Mesa Steel Supply.

City of Calimesa

For the portion of the Project within the City of Calimesa (Figure 2.1-4), on the west side of the Project limits, there is undeveloped land designated for community commercial (CC) or residential low medium (RLM). This segment of the Project limits within the City of Calimesa includes the I-10 and County Line Road interchange, which serves as an important highway and surface transportation node that facilitates the movement of goods. County Line Road serves as a major

arterial roadway for residential, commercial, and industrial sites for both the City of Yucaipa and City of Calimesa. Within the City of Calimesa, east of I-10 is land designated for CC and west is the Downtown Business District.

Future Land Uses

Planned land uses within the land use study area were determined based on the review of city general plans and specific plans. As shown on Figure 2.1-5 and Figure 2.1-6, existing vacant and open space areas previously identified in the land use study area are designated for future commercial and residential development. Planned land uses for each respective city is provided below and defined in Table 2.1-1.

City of Redlands

No planned land uses are designated within the land use study area for the City of Redlands. Development projects within the City of Redlands are focused in areas outside of the land use study area, such as the downtown and university area.

City of Yucaipa

Within the land use study area, there are many areas designated for commercial and single and multiple residential uses within the City of Yucaipa that are currently undeveloped and vacant, as shown on Figure 2.1-5. The undeveloped and vacant areas are designated for future development, including the development of business park, commercial, and residential land uses.

City of Calimesa

Within the City of Calimesa, areas designated for multi-residential uses are also undeveloped or vacant, as shown on Figure 2.1-6. The undeveloped and vacant areas are designated for future development, including the development of commercial and residential land uses. Within the Downtown Business District, the City of Calimesa envisions the creation of mixed-use development with pedestrian-friendly amenities in a downtown setting (City of Calimesa 2014).

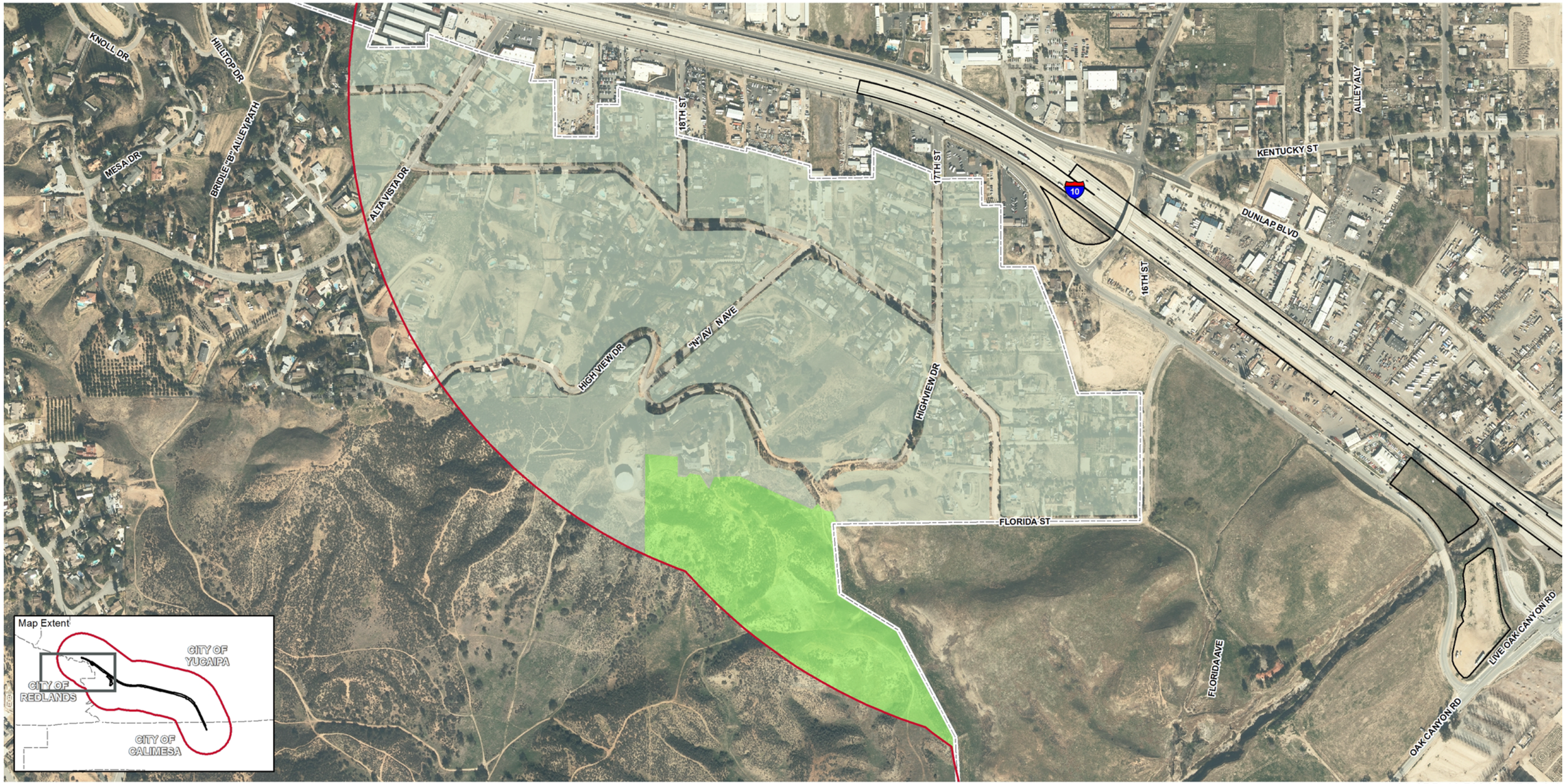


Figure 2.1-2. Existing Land Uses within the City of Redlands

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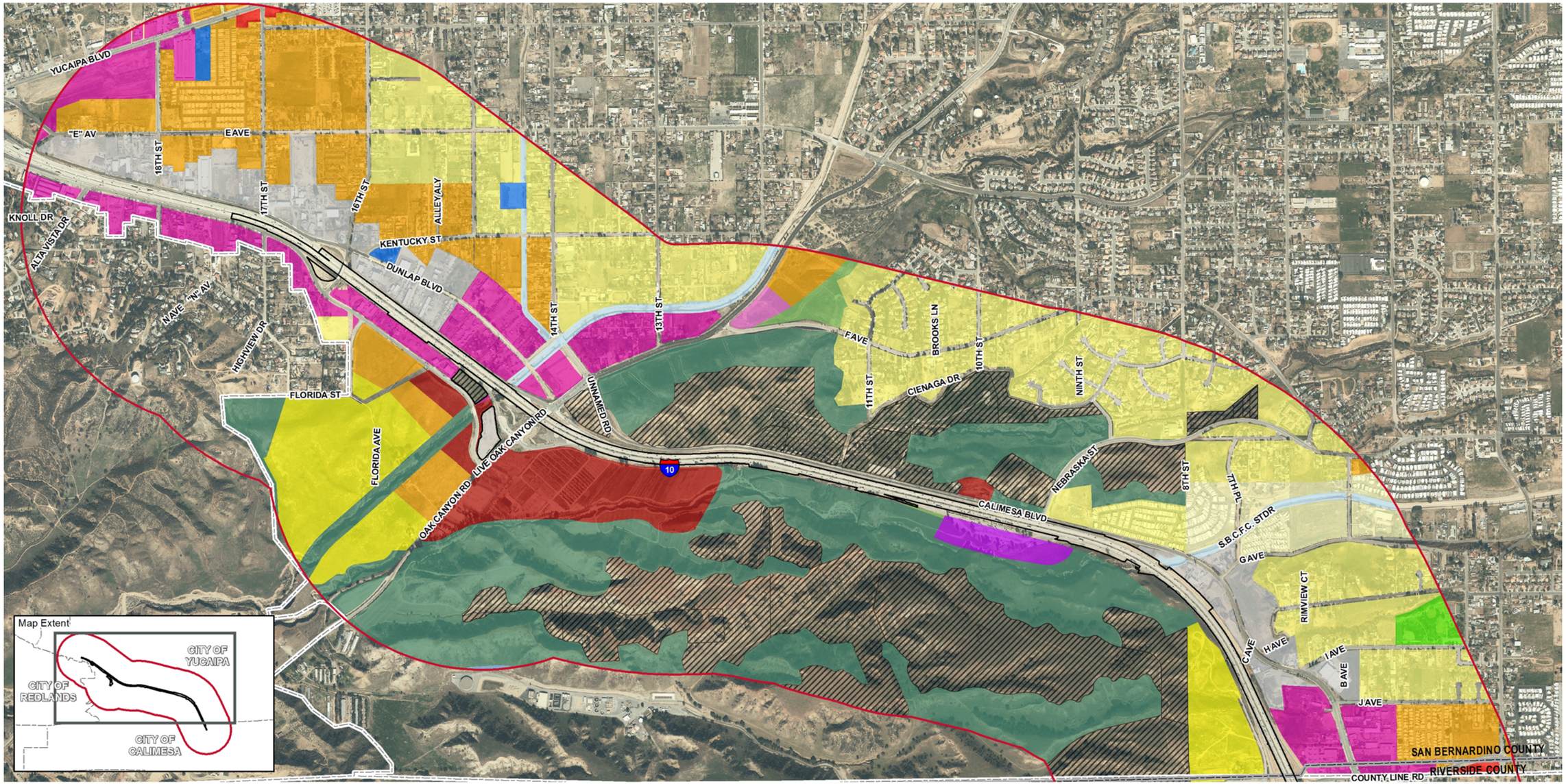


Figure 2.1-3. Existing Land Uses within the City of Yucaipa

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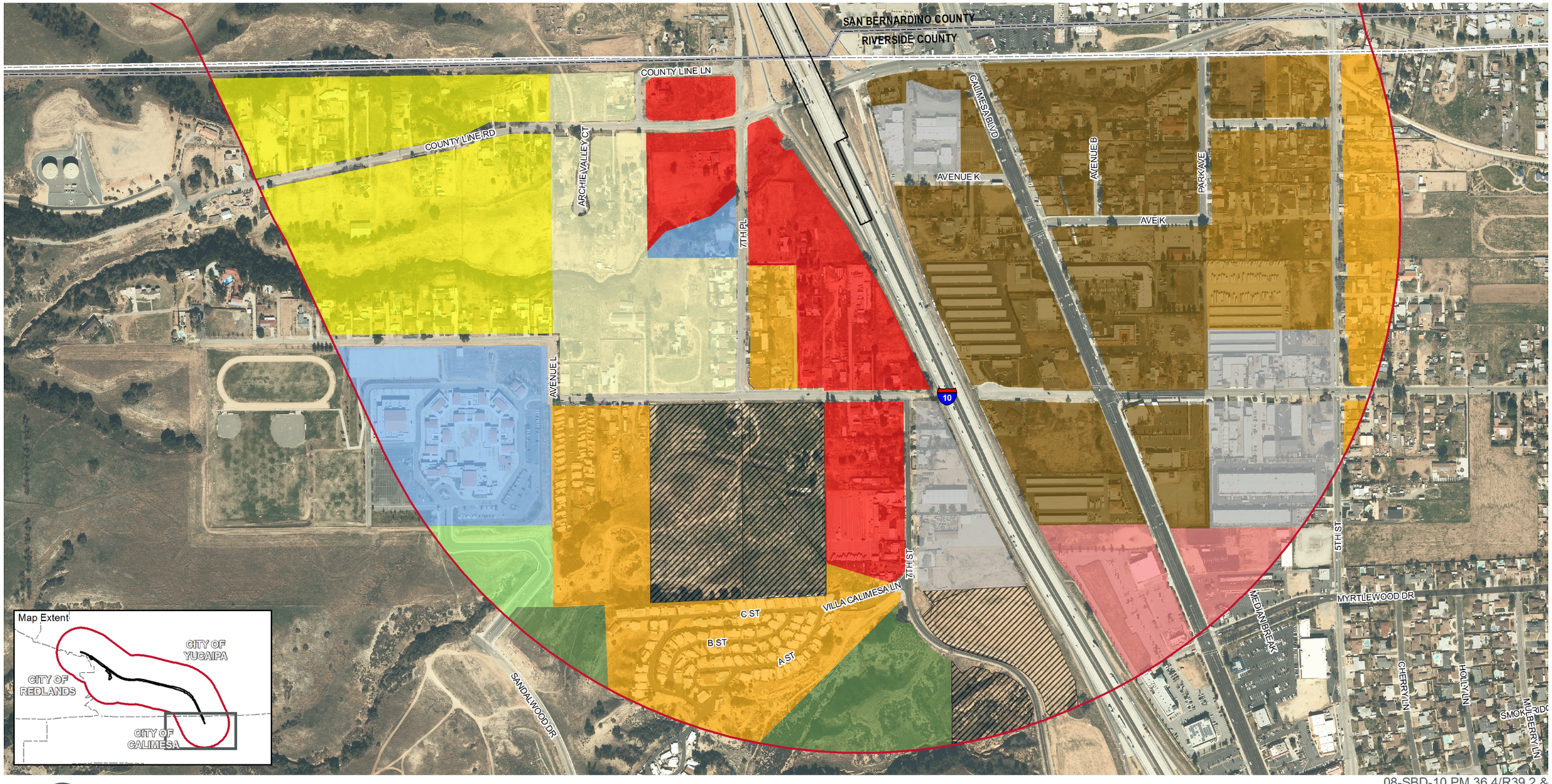
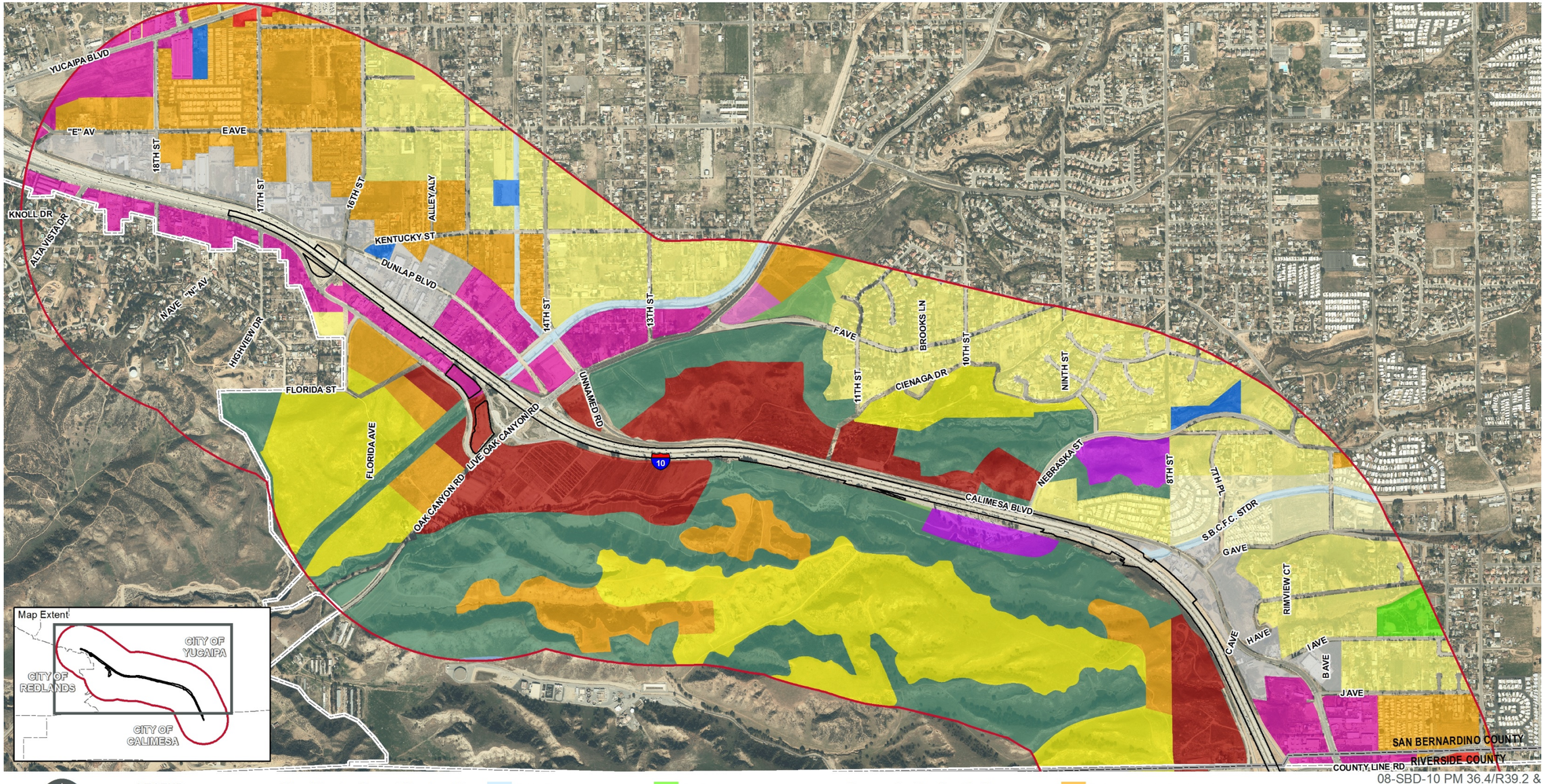


Figure 2.1-4. Existing Land Uses within the City of Calimesa

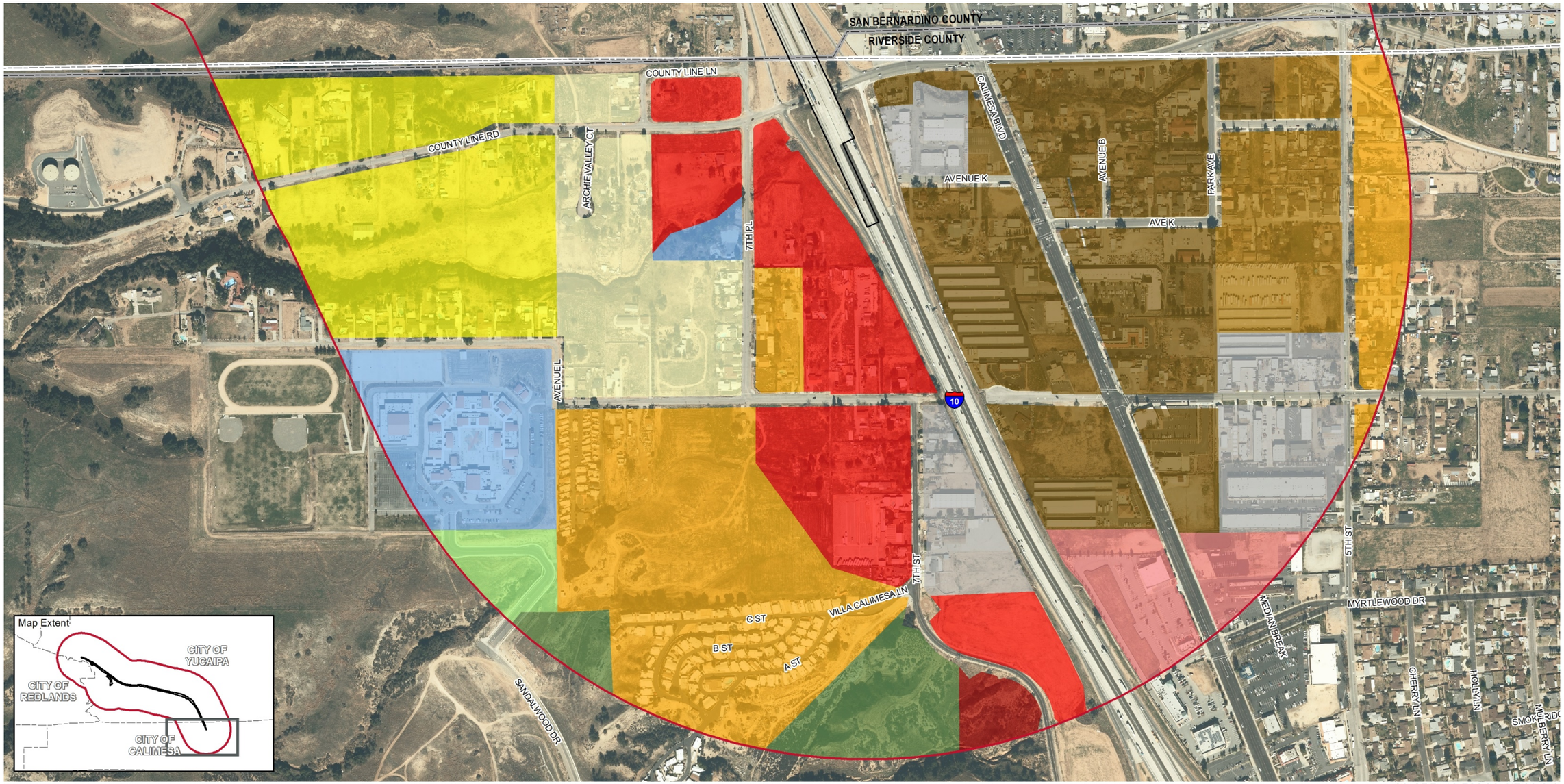
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I-10 Eastbound TCL Improvement Project

Figure 2.1-5. Planned Land Uses within the City of Yucaipa

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I-10 Eastbound TCL Improvement Project

Figure 2.1-6. Planned Land Uses within the City of Calimesa

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Table 2.1-1. Land Use Definitions

Land Use	Definition
City of Yucaipa – Land Use Districts	
Service Commercial (CS)	Provides suitable areas for heavy commercial and light industrial uses, including manufacturing uses where they would not adversely affect surrounding properties or create incompatible land use mixtures. Intended land uses are specified in the municipal code.
Institutional (IN)	Provides areas for row, field, tree, and nursery crop cultivation, as well as accessory uses. Planned development is subject to property development standards and conditional use permit. Parolee homes may also be permitted.
Floodway (FW)	Provides areas for flood control channels, levees, spreading grounds and basins, roads, bridges, and diversion dams. Animal raising as a primary use of the property must be on a parcel no less than 0.5 acre in size.
Neighborhood Commercial (CN)	Provides areas for professional services, retail trade, repair services, convenience support services, recreation/entertainment, and parolee homes, subject to conditional use permit.
General Commercial (CG)	Provides areas for open lot services, wholesale/warehouse services, contract/construction services, transportation services, and agricultural support services, in addition to land uses allowed in the CN District. Planned development and dwelling units in conjunction with a commercial use may be permitted.
Multiple Residential (RM)	Provides areas suitable for a variety of residential uses—attached, detached, and/or mixed residential development. It also allows for diverse nonresidential activities compatible with a multiple family residential neighborhood. The RM designation includes both RM-72C and RM-10M designations.
Rural Residential (RL-2.5)	Provides areas for rural development where single-family residential is the primary use, along with conservation of open space, watershed, and habitat areas. It also includes areas where animal uses, agriculture, and compatible uses may coexist or be permitted.
Single Residential	Provides areas for single-family homes on individual lots, and accessory and nonresidential uses that complement neighborhoods. Incidental agricultural, recreational, or compatible uses with residential neighborhoods are allowed. The RS designation includes the RS-20M, RS-10M, and RS-72C designations.

Table 2.1-1. Land Use Definitions

Land Use	Definition
Community Industrial (IC)	Provides areas suited to industrial uses and the concentration of industrial uses enables efficient use of transportation, circulation, and energy facilities; protects adjacent land uses from harmful influences; and prevents the intrusion of incompatible uses into industrial areas. Intended land uses are specified in the municipal code.
Park (P)	Provides areas for recreational and park facilities for the general public. This includes active and passive uses, such as parks, trails within parks, campgrounds, athletic fields, playgrounds, sports complexes, and equestrian facilities. Ancillary public facilities for recreational opportunities may be permitted.
Open Space (OS)	Provides areas for the preservation of hillsides, ridgelines, habitat, sensitive biological resources, natural features, views, and buffering of incompatible uses. Includes open space areas set aside in planned developments. Passive recreation and public facilities may be allowed depending on the nature of the activity and effect on the land. Open spaces in planned developments or specific plans are designated OS-PD or similar use.
City of Yucaipa – Freeway Corridor Specific Plan	
Regional Commercial (RC)	Provides sites for stores, lodging services, office and professional services, recreation and entertainment services, wholesaling and warehousing, contract/construction services, transportation services, open lot services, and similar and compatible uses. Although these uses often consist of franchised chain stores that often use cookie-cutter standard designs, adherence to the design guidelines included in Chapter 5 of the Specific Plan would ensure that even these chain stores would incorporate modified designs that match and enhance the rural charm and vision of Yucaipa.
Open Space (OS2)	Provide sites for protection of natural features, vegetation, hillsides, ridgelines, and views, and to provide buffering of incompatible land uses.
Business Park (BP)	Provides sites for light industrial and office uses, including as light manufacturing, wholesale/warehouse services, contract/construction services, transportation services, agriculture support services, incidental services, transportation services, and similar and compatible uses.

Table 2.1-1. Land Use Definitions

Land Use	Definition
Single Residential (R-2 and R-4)	Provides sites for detached single-family residential uses.
Single or Multiple Residential (R-8)	Provides sites for attached or detached multiple-family residential uses, single-family residential uses, cluster residential uses, mixed residential uses, and similar and compatible non-residential uses and activities.
Multiple Residential (R-24)	Provides sites for multiple-family residential uses, such as apartments, condominiums, townhomes, mixed residential uses, and similar and compatible non-residential uses and activities.
Public Facilities	Provides sites for public and quasi-public uses and facilities and similar and compatible uses, such as schools, electrical substations, or wastewater treatment facilities.
Rural Living (R-1)	Provides sites for rural residential uses, incidental agricultural uses, and similar and compatible uses.
City of Calimesa - Land Use Plan	
Residential Rural (RR)	Characterized by single-family detached homes on 0.5- to 1-acre lots. Provide for light agricultural uses in conjunction with single-family residential. Residential subdivisions and equestrian uses are also permitted.
Residential Estate (RE)	Characterized by single-family detached homes and buildings and structures related to agriculture, farm use, animal keeping, and equestrian uses. Minimum lot sizes of 5 gross acres are required.
Residential Low Medium (RLM)	Characterized by single-family residential development on lots ranging from 6,000 to 10,000 square feet in size.
Residential High (RH)	Allows dwelling unit densities that would provide housing opportunities for high density multiple-family living and people of low and moderate incomes.
Quasi Public (QP)	Accommodates uses such as Calimesa City Hall, the post office, the fire station, institutional uses (private schools, churches), libraries, and other similar development.

Table 2.1-1. Land Use Definitions

Land Use	Definition
Community Commercial (CC)	Provides large-scale commercial activities serving the city or the subregion. Examples of CC uses include junior department stores, discount or warehouse stores, furniture/appliance outlets, home improvement centers, entertainment centers, and community centers.
Light Industrial (LI)	Provides accommodations for industrial activities, such as low-intensity packing, manufacturing, assembly of nonhazardous products and materials, and limited retail sales and services related to or supportive of manufacturing activity and employees.
City of Calimesa – Downtown Business District	
Downtown Village Commercial (DVC)	Encourages new development in a more traditional downtown form that incorporates a mixture of uses (retail, dining, entertainment, residential, office, and civic/cultural). Buildings are close to and oriented toward the sidewalk, especially at street corners. The mix of uses is intended to work together to create a pedestrian-oriented shopping, dining, living, and working experience.
Downtown Neighborhood Commercial (DNC)	Provides areas for automobile-oriented commercial development, primarily in shopping centers. Typical uses in this zone include larger retail stores; commercial recreation and entertainment uses, such as movie theaters, hotels, and restaurants; and smaller neighborhood uses, such as grocery stores and banks.
City of Calimesa – Mesa Verde Estates Specific Plan	
Open Space – Natural	Characterized as preserved or undeveloped open space, including natural open space corridors and proposed conservation areas, including areas protected by the City of Calimesa's Oak Tree and Oak Woodlands Preservation and Protection Ordinance.
Open Space – Park	Characterized as public parks with a variety of recreational amenities, including "pocket parks" interspersed within project areas. Private recreational facilities and parks that are phased with residential development are other open space uses in this zone.
Mixed Use – Commercial and Multi-family (MF)	Characterized as project sites comprised of both multi-family residential uses and commercial development.

Table 2.1-1. Land Use Definitions

Land Use	Definition
City of Redlands - Land Use Plan	
Open Space	Provides for public and private lands that are mostly unimproved and free of residential, commercial, and/or industrial development. They include areas intended for the conservation of natural resources, such as construction aggregates; compatible outdoor recreational uses, such as passive parks and trails; scenic enjoyment; and the protection of natural habitats.
Resource Preservation	Limited permitted uses include remote commercial recreational facilities, such as equestrian facilities, postal offices, public safety facilities, educational facilities and public utilities, and open space uses. Residential uses are permitted, but density would be limited.

Sources: City of Calimesa n.d., 2014, 2017; City of Redlands 2017; City of Yucaipa 2008, 2016

Notes:

BP=Business Park; CC=Community Commercial; CN=Neighborhood Commercial; CS=Service Commercial; DNC=Downtown Neighborhood Commercial; DVC=Downtown Village Commercial; FW=Floodway; IC=Community Industrial; IN=Institutional; LI=Light Industrial; MF=Multi-Family Residential; OS=Open Space; PD=Planned Development; P=Park; QP=Quasi Public; R=Residential; RC=Regional Commercial; RE=Residential Estate; RH=Residential High; RL=Rural Residential; RLM=Residential Low Medium; RR=Residential Rural; RS=Residential Single-Family

Development Trends

Land and transportation development projects that have recently been constructed, are under construction, or are proposed within the land use study area are shown on Figure 2.1-7 and described in Table 2.1-2.

Recent land development trends in the land use study area have been primarily focused on new commercial developments, commercial redevelopments, housing, and lot subdivisions in the City of Yucaipa. As shown in Table 2.1-2, the City of Yucaipa also has several capital improvement projects within the land use study area that have been recently completed or are proposed for future construction. Development projects within the City of Yucaipa appear to be geographically clustered in the northern and southern ends of the Project limits and are likely due to the majority of the existing built environment being located within this portion of the land use study area.

In the City of a Calimesa, a gas station at County Line Road and 7th Place is proposed. The City of Calimesa is also proposing several residential developments; however, those identified within the

City of Calimesa Adopted Budget and Capital Improvement Program for the 2017-2018 Fiscal Year are located outside of the land use study area. The City of Calimesa also approved the *Calimesa Creek Master Plan* (City of Calimesa 2012) to promote public access and pedestrian use along Calimesa Creek; however, it does not appear that the improvements as proposed by the master plan have been implemented. No land developments within the land use study area were identified for the City of Redlands.

Transportation development projects that intersect with the land use study area include the I-10 Corridor Project and the I-10/Wildwood Canyon Road Interchange Project. These transportation projects would help improve traffic operations and safety, as growth is forecasted to increase drastically in the Cities of Yucaipa and Calimesa and Counties of San Bernardino and Riverside.

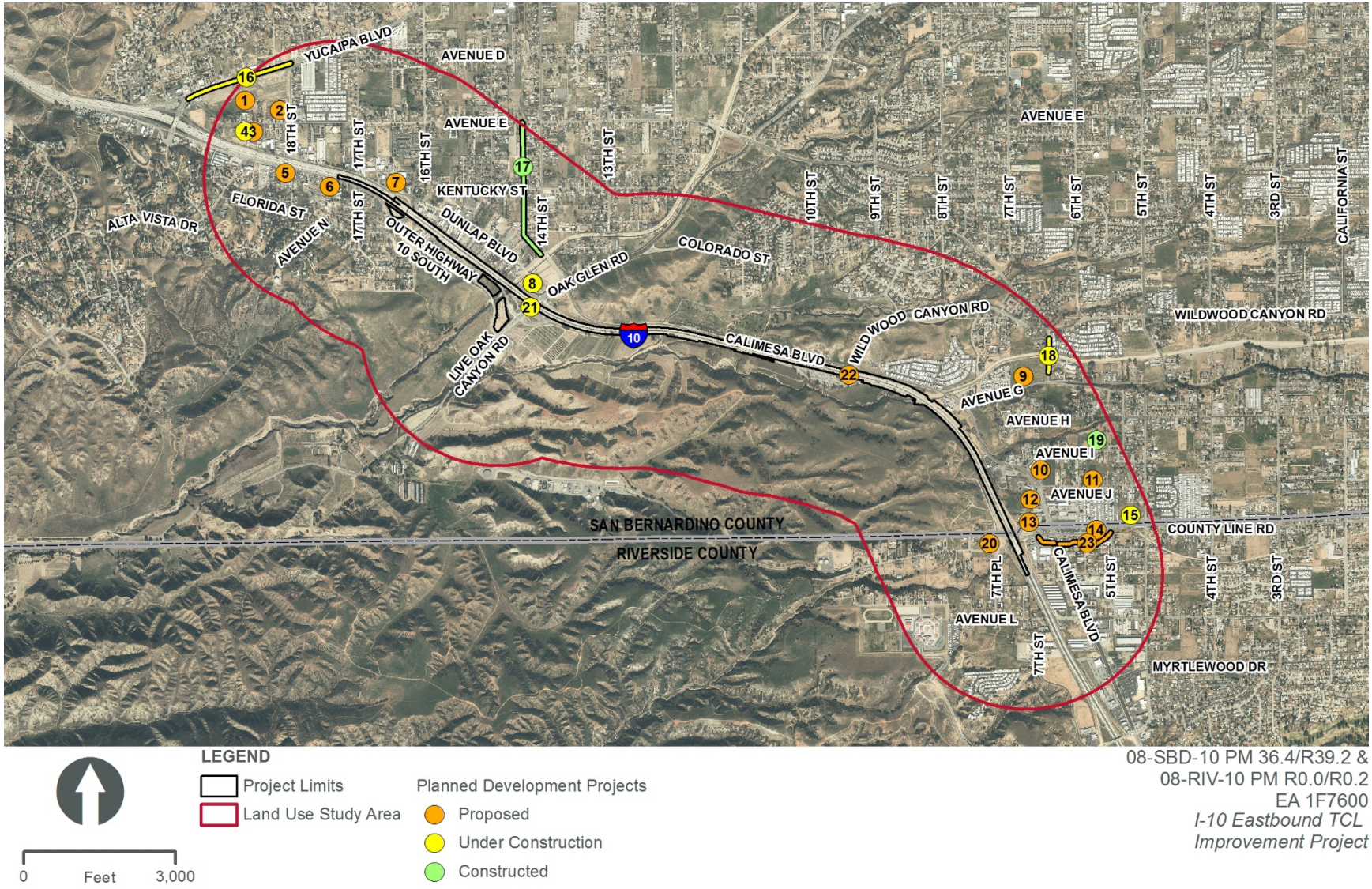


Figure 2.1-7. Land and Transportation Development Projects within the Land Use Study Area

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Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
1	Yucaipa Pointe Center (Yucaipa Boulevard and 18th Street)	City of Yucaipa	Conditional use permit for a shopping center.	**Proposed.** The project application is currently under review. Start of construction was not specified (City of Yucaipa 2018).
2	19 Condominium Units	City of Yucaipa	Conditional use permit for 19 condominium units on approximately 2.4 acres.	**Proposed**. The project was approved by the Planning Commission February 15, 2017. Start of construction was not specified (City of Yucaipa 2018).
3	Golden State Glazing Buildings	City of Yucaipa	Conditional use permit for two new buildings (2,400 square feet and 4,996 square feet).	**Proposed.** The project was approved by the Planning Commission July 18, 2018. Start of construction was not specified (City of Yucaipa 2018).
4	Office Building and Garage/Storage Warehouse	City of Yucaipa	Conditional use permit for a new office building and garage/storage warehouse.	**Under Construction.** Phase II is complete, and Phase III is currently in plan check (City of Yucaipa 2018).
5	Import Connection	City of Yucaipa	Conditional use permit to develop the rear and side area of a 50,881-square-foot lot with an existing 9,050-square-foot retail building and associated 15,000-square-foot paved parking lot into a paved outdoor sales/display area.	**Proposed.** The project is currently under plan review. Start of construction was not specified (City of Yucaipa 2018).

Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
6	Extreme Auto Sales	City of Yucaipa	Revision to conditional use permit to remove an existing garage building #3, enlarge building #2 by adding two more repair bays, and adding a story to office building #1.	**Proposed.** Approved by the Planning Commission November 1, 2017. Start of construction was not specified (City of Yucaipa 2018).
7	Sorenson Engineering Remodel	City of Yucaipa	Conditional use permit for an employee parking lot, remodel of a 3,400-square-foot building, addition of a 4,200-square-foot warehouse, addition of a 700-square-foot office, new 20,000-square-foot building, and modification of an existing administrative parking lot.	**Proposed.** The project was approved by the Planning Commission June 20, 2018. Start of construction was not specified (City of Yucaipa 2018).
8	Yucaipa Gateway Plaza	City of Yucaipa	Proposed commercial center to replace existing bar and restaurant with fast food, fuel, and hotel.	**Under Construction.** The project was approved by the Planning Commission November 19, 2014, and the Development Agreement was approved by the City Council February 23, 2015. Phase I is complete, and Phase II is under plan development (City of Yucaipa 2018).
9	29 Lot Subdivision	City of Yucaipa	Twenty-nine-lot subdivision on 9.37 acres located at 6th Place and Avenue G.	**Proposed.** The project was approved by the Planning Commission November 7, 2018. Start of construction was not specified (City of Yucaipa 2018).

Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
10	Oak Valley Church Revision	City of Yucaipa	Convert 60,000 square feet industrial/manufacturing use to an institutional/church use through the remodeling of the existing warehouse/office space to provide a variety of activity areas, including an auditorium area, entry lobby, raised stage, restrooms, classrooms, church offices, and partial removal of the roof on 6.01 acres.	**Proposed.** Permits have been issued. Start of construction was not specified (City of Yucaipa 2018).
11	Elite Premiere Investments	City of Yucaipa	Divide a 1.04-acre lot into three separate parcels.	**Proposed.** The project was approved (City of Yucaipa 2018).
12	Commercial Flex Park	City of Yucaipa	Conditional use permit to develop 2.40 acres into a commercial flex park. Four separate buildings, which would total 37,211 square feet when built out.	**Proposed.** The project application is currently under review. Start of construction was not specified (City of Yucaipa 2018).
13	Emergency Cold Weather Shelter (13700 Calimesa Boulevard)	City of Yucaipa	Land Use Compliance Review for an emergency cold weather shelter at Set Free Christian Fellowship.	**Proposed.** The project application is currently under review. Start of construction was not specified (City of Yucaipa 2018).
14	Car Wash (34112 County Line Road)	City of Yucaipa	Conditional use permit for a car wash.	**Proposed.** The project application is currently under review. Start of construction was not specified (City of Yucaipa 2018).

Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
15	Eagle Housing	City of Yucaipa	Affordable senior housing complex (64 one-bedroom units and 32 two-bedroom units on a 3.48-acre site).	**Under Construction.** The project was approved by the Planning Commission February 7, 2018, and is currently under construction (City of Yucaipa 2018).

Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
16	Yucaipa Boulevard Street Improvements Phase I & Phase II	City of Yucaipa	This project is funded by Traffic Facilities Fee Funds, Measure I Arterial Funds, Proposition 1-B Funds, Proposition 42 Funds, Pavement Management Program Funds, General Fund funding and Highway Safety Improvement Program grant funds. The Highway Safety Improvement Program grant funds are to be used specifically for the construction of Phase II only, which is the segment of Yucaipa Boulevard between 15th Street and 16th Street. This project includes widening of Yucaipa Boulevard from four to six lanes, storm drain system, raised center median, new traffic signals, undergrounding of utility lines and removal of overhead utilities, utility poles and other utility work, such as utility vaults, and conduit. The project includes coordinating with utility companies to complete sewer, water, television, telephone, and television/communication cable underground/relocation work.	**Under Construction.** Project construction has begun and will be completed in summer 2019 (City of Yucaipa 2018).

Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
17	Dunlap Channel Recreation Trail and Landscape Improvement Project	City of Yucaipa	This project is funded by the Fiscal Year 2017/2018 Capital Improvement Program that includes Drainage Facility Fee funds, PMP funds, and Recreational Trail Program Grant funds. This project includes DG trail surfacing, trail fencing installation, access gate and trail step-over installation, trail signage, tree planting along the trail, and modification of the existing irrigation system for the proposed trees.	**Constructed.** According to the City of Yucaipa's September 2018 Construction Update, the project has been recently completed (City of Yucaipa 2018).
18	6th Place at Wildwood Creek Low Water Crossing Replacement Project	City of Yucaipa	This project is funded by a Federal Highway Bridge Program Grant, PMP Funds, and DFF Funds. This project includes replacing the existing low water crossing with a box culvert bridge to allow vehicular and pedestrian access at all times, specifically during storm events. The proposed construction contract includes channel improvements in Wildwood Creek, a maintenance ramp into the channel for the Flood Control District, street improvements at the bridge approaches, access improvements to the adjacent private properties, and underground storm drain systems to accommodate the proposed road profiles.	**Under Construction**. Project construction has begun and will be completed in October 2019 (City of Yucaipa 2018).

Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
19	Landscape Water Conservation Project Phase III	City of Yucaipa	This project is funded by a San Bernardino Valley Municipal Water District and Prop 1A Grant, Park Capital Replacement Funds, and Fire Capital Replacement Funds. The scope of work includes removing turf and replacing it with water efficient landscaping.	**Constructed.** According to the City of Yucaipa's September 2018 Construction Update, the project has been recently completed (City of Yucaipa 2018).
20	Gas Station (7th Place and West County Line Road)	City of Calimesa	New self-service gas station, mini-mart, and car wash.	**Proposed.** Approval of the project application per the City of Calimesa Adopted Budget and Capital Improvement Program for the 2017-2018 Fiscal Year. Start of construction was not specified (City of Calimesa 2018).
21	Interstate 10 Pavement Project	City of Yucaipa, Caltrans	Project includes asphalt concrete on the shoulders and reinforced concrete pavement on the freeway, removal and replacement of a barrier in the median, upgraded draining system and guardrails, from just west of the Live Oak Canyon Road Interchange east to the County Line Road undercrossing.	**Under Construction.** The portion of the project that is within the City of Yucaipa began construction February 4, 2019. This project is anticipated to be completed prior to the start of construction of the EB I-10 TCL Project (Yucaipa Daily News 2019)

Table 2.1-2. Land Development and Transportation Projects within the Land Use Study Area

Project Number	Project Name/Type	Jurisdiction	Proposed Uses	Status
22	Interstate 10/Wildwood Canyon Road Interchange Project	City of Yucaipa, City of Calimesa, SBCTA, Caltrans	New interchange at I-10 and Wildwood Canyon Road interchange (PM R38.53) in the City of Yucaipa.	**Proposed.** This project is currently in the PEAR phase (SBCTA n.d.).
23	Calimesa Creek Master Plan	City of Calimesa, Riverside County Flood Control District	The intent of this master plan is to promote public access to and pedestrian use along Calimesa Creek and improve development potential within the Calimesa Creek Overlay Zone.	**Proposed.** This master plan was adopted July 16, 2012. It is unknown if the improvements proposed by the master plan have been implemented; it does not appear that the master plan project has been constructed (City of Calimesa 2014; City of Calimesa 2012).

Notes:

Caltrans=California Department of Transportation; DFF=Drainage Facilities Fee; DG=decomposed granite; EB=eastbound; PEAR=Preliminary Environmental Analysis Report; I-10=Interstate 10; PM=Post Mile; PMP=Pavement Management Program; SBCTA=San Bernardino County Transportation Authority; TCL=truck climbing lane

2.1.2 Environmental Consequences

2.1.2.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in construction activities. Therefore, there would be no temporary land use effects.

Alternative 2 (Build Alternative)

Alternative 2 (Build Alternative) would be constructed within Caltrans ROW, with the exception of select TCEs required for two potential staging areas on the parcels listed in Table 2.1-3 and publicly owned ROW. The existing land use designations, ownership, and temporary effect acreage of these affected parcels are also provided in Table 2.1-3.

Table 2.1-3. Properties Affected

APN	Ownership	Existing Land Use	Land Use Designation	Type of Temporary Effect	Temporary Effect (Acres)
0301-181-07	BMK LLC	Vacant	CS	Staging/TCE	0.52
0301-181-08	BMK LLC	Vacant	CS	Staging/TCE	0.59
0301-181-09	BMK LLC	Vacant	CS	Staging/TCE	0.94
0301-201-33	Robinson Properties	Vacant	CR	Staging/TCE	2.89
0301-201-35	Robinson Properties	Vacant	CR	Staging/TCE	0.43

Sources: City of Yucaipa 2016

Note:

APN=assessor's parcel number; CR=Regional Commercial; CS=Service Commercial; FW=Floodway; IC=Community Industrial; TCE=temporary construction easement

The required TCEs for staging areas would only be needed during the construction phase and would be returned to its original use upon construction completion. The staging areas would be located on parcels that are currently vacant and have a land use designation that allows for construction services, transportation services, and open lot services. Therefore, the temporary use of these parcels for staging would not be incompatible with the existing land uses. Additionally, the areas identified for staging are minimal and would not affect the function or future use of these properties.

Therefore, the Project under Alternative 2 (Build Alternative) is not anticipated to result in any adverse temporary effects on land use resources.

2.1.2.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in the operation of the proposed TCL. Therefore, there would be no permanent land use effects.

Alternative 2 (Build Alternative)

Under Alternative 2 (Build Alternative), no permanent partial or full acquisition of property would be required by the Project; therefore, no changes in existing land use or land use designations (as shown in Table 2.1-3) would occur. In addition, implementation of the Project would not require updates to any applicable land use plans. Therefore, the Project is not anticipated to result in any adverse direct or indirect permanent effects on land use resources.

2.1.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.2 Consistency with State, Regional, and Local Plans and Programs

The following discussion describes the adopted transportation and land use plans and programs within the land use study area applicable to the Project.

2.2.1 Affected Environment

2.2.1.1 Federal Programs

Final 2019 Federal Transportation Improvement Program

The FTIP is a federally mandated 4-year program of all surface transportation projects that are planned to receive federal funding or are subject to a federally required action. The FTIP is a comprehensive listing of transportation projects proposed over a 6-year period, which include highway improvements for transit, rail, and bus facilities; high-occupancy vehicle (HOV) lanes; high-occupancy toll lanes; signal synchronization; intersection improvements; freeway ramps; non-motorized projects; and bicycle and pedestrian infrastructure.

The Project is included in the adopted Final 2019 FTIP as Project ID 20179901.

2.2.1.2 Regional Plans

Southern California Association of Governments 2008 Regional Comprehensive Plan

The SCAG 2008 Regional Comprehensive Plan (RCP) (SCAG 2008) is an advisory document to local agencies for their voluntary use in preparing local plans and handling issues of regional significance. The RCP addresses important regional issues, such as housing, traffic/transportation, water, and air quality, and presents a vision of how the region can balance resource conservation, economic vitality, and quality of life.

Southern California Association of Governments 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG 2020-2045 RTP/SCS (SCAG 2020) identifies and analyzes transportation needs for the region and creates a framework for project priorities. The SCS, which is incorporated into the RTP/SCS per Senate Bill 375, demonstrates how the region would meet its greenhouse gas (GHG) reduction targets. The Project is included in the 2020-2045 RTP/SCS adopted by the SCAG Regional Council May 7, 2020, and is listed as RTP ID 4122003 (SCAG 2020).

2.2.1.3 Local Plans

City of Yucaipa General Plan

The *City of Yucaipa General Plan* (City of Yucaipa 2016) provides the policy framework that guides the decisions about future economic development projects, service priorities, capital improvements, and budgeting priorities. The *City of Yucaipa General Plan* vision is to balance the needs of residents, the environment, and the business community.

City of Yucaipa Freeway Corridor Specific Plan

The *City of Yucaipa Freeway Corridor Specific Plan* (City of Yucaipa 2008) guides development for the 242-acre I-10 freeway corridor planning area. This plan establishes a framework for development of the area through proposed land uses, development regulations, design standards, multi-modal access, protection and management of natural resources, management of infrastructure, and the implementation of administrative processes.

City of Calimesa General Plan

The *City of Calimesa General Plan* (City of Calimesa 2014) provides the city's vision of its long-term physical form and development. The general plan serves as the official policy framework guiding the physical, social, and economic development in the City of Calimesa, as well as the city's operation and decision making. As stated in the *City of Calimesa General Plan*, the general plan is used as the basis of standards for development of public and private projects.

City of Redlands General Plan

The *City of Redlands General Plan 2035* (City of Redlands 2017) is considered the city's development constitution that provides the community's vision for long-term development by guiding the city's physical growth. The purpose of the general plan is to also provide a basis for judging whether specific development proposals and public projects are in harmony with plan policies; development is in line with future needs; and to provide a basis for establishing priorities for detailed plans, programs, regulations, and capital improvement projects.

2.2.2 Environmental Consequences

Transportation and land use plans within the land use study area were reviewed for goals and policies applicable to the Project. Table 2.2-1 analyzes the consistency of the Project alternatives with these transportation and land use plans.

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
SCAG 2008 RCP		
Transportation Goal: A more efficient transportation system that reduces and better manages vehicle activity.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative). As development continues and traffic demand increases, operational characteristics would further deteriorate, which may result in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating speeds on the freeway. Therefore, Alternative 1 (No-Build Alternative) would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits and would not be consistent with these goals.	**Consistent.** Trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slower moving trucks. Alternative 2 (Build Alternative) would result in a more efficient and safe transportation system by adding a TCL along EB I-10 and implementing improvements such as new concrete barriers in the new centerline that would adjoin to existing concrete barriers, paving and restriping, adding new interior EB MFL, signage, upgrading existing drainage facilities, and widening the median of Oak Glen Creek Bridge. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with this goal.
Security and Emergency Preparedness Goal: Ensure transportation safety, security, and reliability for all people and goods in the region.		

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
SCAG 2020-2045 RTP/SCS		
Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative). As development continues and traffic demand increases, operational characteristics would further deteriorate, which may result in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating speeds on I-10. Therefore, Alternative 1 (No-Build Alternative) would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits and would not be consistent with these goals.	**Consistent.** Alternative 2 (Build Alternative) would improve mobility, accessibility, and reliability in the region by improving operational safety and efficiency through the implementation of the project components, which include adding a TCL along EB I-10, constructing new concrete barriers in the new centerline that would adjoin to existing concrete barriers, paving and restriping, adding new interior EB MFL, signage, upgrading existing drainage facilities, and widening the median of Oak Glen Creek Bridge. Therefore, with these improvements that would improve mobility and efficiency within the land use study area, I-10 and adjoining transportation systems would be enhanced and made resilient to future growth and demands on the existing network. Therefore, Alternative 2 (Build Alternative) would be consistent with these goals.
Goal 3: Enhance the preservation, security, and resilience of the regional transportation system..		
Goal 8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel.		
City of Yucaipa General Plan – Community Design and Land Use Element		
Policy Community Design and Land Use Element-1.5: **Transportation System**. Develop and maintain a transportation system that is closely coordinated with land use planning decisions, moves people and goods	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative).	**Consistent.** Alternative 2 (Build Alternative) would maximize mobility and create a more efficient transportation system by adding the TCL along EB I-10. A large part of the land uses along the Project limits include commercial and industrial uses that benefit by being located near

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
efficiently and safely, and is designed to accommodate and promote scenic viewsheds.	The Cities of Yucaipa and Calimesa have large areas of opportunity and undeveloped land that are designated for commercial and industrial uses. Future development within these areas is anticipated as growth and demand increases. Therefore, Alternative 1 (No-Build Alternative) would not maintain a transportation system that is closely coordinated with the forecasted growth along I-10 and would not be consistent with this policy.	freeways that serve as critical corridors for the movement of goods. Additionally, although the Project limit is adjacent to open space; scenic views of the hillsides, creeks, and channels; and over crosses scenic highways, as designated by the City of Yucaipa; as vehicles are traversing along I-10, any disruption of views within the Project limits would be short term. Therefore, Alternative 2 (Build Alternative) would be consistent with this policy.
Policy Community Design and Land Use Element-1.8: Overlay Districts. Require that development projects comply with applicable regulations in the municipal code when the underlying parcels are located within a designated overlay district.	**Not Applicable.** As Alternative 1 (No-Build Alternative) does not propose any improvements, no effects on parcels within an overlay district would occur.	**Consistent.** Although there are some parcels within a designated overlap district, these parcel have been identified for potential staging areas, and no development would occur on these parcels. The Project improvements would occur within existing Caltrans ROW. Alternative 2 (Build Alternative) would be consistent with this policy.
Policy Community Design and Land Use Element-7.4: Safe and Efficient Circulation. Ensure a safe and efficient circulation system that adequately supports the anticipated level of traffic in and around the specific plan area.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative). As development continues and traffic demand increases, operational characteristics would further	**Consistent.** As stated above, trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
	deteriorate, which may result in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating speeds on the freeway. The deterioration of operational efficiency of I-10 would influence and affect local roadway capacity, efficiency, and safety. Therefore, Alternative 1 (No-Build Alternative) would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits and would not be consistent with this policy.	moving automobiles and slower moving trucks. Alternative 2 (Build Alternative) would result in a more efficient and safe transportation system by adding a TCL along EB I-10 and implementing improvements, such as new concrete barriers in the new centerline that would adjoin to existing concrete barriers, paving and restriping, adding new interior EB MFL, signage, upgrading existing drainage facilities, and widening the median of Oak Glen Creek Bridge. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with this policy.
Policy Community Design and Land Use Element-7.9: Area Resources. Protect and preserve sensitive wildlife habitat, waterways, wildlife corridors, cultural and paleontological resources, and other assets in accordance with state and federal law.	**Not Applicable.** As Alternative 1 (No-Build Alternative) does not propose any improvements, no effects on sensitive wildlife habitat, waterways, wildlife corridors, cultural and paleontological resources would occur.	**Consistent.** The Project crosses over Wilson Creek, Wildwood Wash, and Calimesa Creek. The Project proposes to widen the median of the Oak Glen Creek Bridge that crosses over Wilson Creek to close the gap in the median. New bridge abutments and a pier wall (bent) are proposed as part of the median closure. The Project is also within cultural and paleontological resource sensitivity areas. Implementation and construction of the Project would be required to comply with federal and state regulations to avoid, minimize, and/or mitigate effects on the waterways, sensitive habitat, wildlife, cultural resources, and paleontological resources that are

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
		within the Project Limits. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with this policy.
City of Calimesa General Plan – Transportation and Mobility Element		
Goal TM-1: A transportation system that ensures the safe and efficient movement of people and goods throughout the city.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative). As development continues and traffic demand increases, operational characteristics would further deteriorate, which may result in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating freeway speeds. The deterioration of operational efficiency of I-10 would influence and affect local roadway capacity, efficiency, and safety. Therefore, Alternative 1 (No-Build Alternative) would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits and would not be consistent with this goal.	**Consistent.** As stated above, trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slower moving trucks. Although the Project limits only extend into the City of Calimesa approximately 0.17 mile (893 feet), Alternative 2 (Build Alternative) would result in a more efficient and safe transportation system by adding a TCL along EB I-10 and implementing improvements, as discussed previously. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with this goal.

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
City of Redlands General Plan – Prosperous Economy Element		
Action 3-A.8: Support design and development of a transportation system to service the business and industrial needs of the Planning Area in order to minimize congestion and circuitous travel.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative). Although the Project limits do not extend into the boundaries of the City of Redlands, the Project ties into the existing infrastructure within the City of Redlands. Therefore, the Project would influence the operation and safety of I-10 as it traverses through the City of Redlands. As development continues and traffic demand increases, operational characteristics would further deteriorate, which may result in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating speeds on the freeway. The deterioration of operational efficiency of I-10 would influence and affect local roadway capacity, efficiency, and safety. Therefore, Alternative 1 (No-Build Alternative) would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits and would not be consistent with this goal.	**Consistent.** As stated above, trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slower moving trucks. Although the Project limits do not extend into the boundaries of the City of Redlands, the Project ties into the existing infrastructure within the City of Redlands. Therefore, the Project would influence the operation and safety of I-10 as it traverses through the City of Redlands. Therefore, Alternative 2 (Build Alternative) would result in a more efficient and safe transportation system by implementing a TCL along EB I-10 and other improvements, which would influence the operation and efficiency of the adjoining portions of the I-10 freeway system. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with this goal.

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
City of Redlands General Plan – Livable Community Element		
Action 4-A.157: Include the Police and Fire departments in the review of new developments to provide feedback on building and site design safety.	**Not Applicable.** As the Project would not be developed under Alternative 1 (No-Build Alternative), there would be no need to coordinate with the police and fire departments.	**Consistent.** Although the Project limits do not extend into the boundaries of the City of Redlands, the Project ties into the existing infrastructure within the City of Redlands. Therefore, the Project may influence access and circulation through the City of Redlands from I-10. During Project construction under Alternative 2 (Build Alternative), police and fire departments would be consulted to discuss any impacts on circulation that may affect response times and access and what methods would minimize disruption to service response.
City of Redlands General Plan – Connected City Element		
Policy 5-P.1: Maintain a cohesive circulation system through a "layered network" approach promoting complete streets and mobility for all modes while emphasizing specific transportation modes for specific corridors and geographic areas.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative). Although the Project limits do not extend into the boundaries of the City of Redlands, the Project ties into the existing infrastructure within the City of Redlands. Therefore, the Project would influence the operation and safety of	**Consistent.** As stated above, trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slower moving trucks. Although the Project limits do not extend into the boundaries of the City of Redlands, the Project ties into the existing infrastructure within the City of
Policy 5-P.2: Use the layered network approach to identify, schedule, and implement roadway improvements as development occurs in the future, and as a standard		

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
against which to evaluate future development and roadway improvement plans.	I-10 as it traverses through the City of Redlands. As development continues and traffic demand increases, operational characteristics would further deteriorate, which may result in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating speeds on the freeway. The deterioration of operational efficiency of I-10 would influence and affect local roadway capacity, efficiency, and safety. Since Alternative 1 (No-Build Alternative) would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits, Alternative 1 (No-Build Alternative) would not be consistent with these policies.	Redlands. Therefore, the Project would influence the operation and safety of I-10 as it traverses through the City of Redlands. Therefore, Alternative 2 (Build Alternative) would result in a more efficient and safe transportation system by implementing a TCL along EB I-10 and other improvements, which would influence the operation and efficiency of the adjoining portions of the I-10 freeway system. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with these policies.
Policy 5-P.5: Manage the city's transportation system to minimize traffic congestion, improve flow, and improve air quality.		
Policy 5-P.24: Discourage the use of City streets as alternatives to congested regional highways.		
Policy 5-P.25: Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.	**Not Applicable.** As the Project would not be developed under Alternative 1 (No-Build Alternative), there would be no need to review and coordinate with Caltrans on the Project.	**Consistent.** The Project is planned and programmed in the adopted Final 2019 FTIP (SCAG 2019) and SCAG 2020 RTP/SCS (SCAG 2020). Additionally, Caltrans is the lead agency under CEQA and NEPA. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with this action and policy.
Action 5-A.42: Work with State, regional, and federal transportation agencies in the continued improvement of freeways and interchanges within the city.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected	

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	**Alternative 2 (Build Alternative)**
	to result under Alternative 2 (Build Alternative). The Project is planned and programmed in the adopted Final 2019 FTIP (SCAG 2019) and SCAG 2020 RTP/SCS (SCAG 2020). Therefore, Alternative I (No-Build Alternative) would not be consistent with this action.	
Action 5-A.43: Support improvements to I-10 and I-210 that improve capacity and flow. **Policy 5-P.30:** Prioritize goods movement along specific routes in the city, consistent with the layered network, to foster efficient freight logistics. **Action 5-A.81:** Focus truck routes on roadways prioritized for automobiles, consistent with the layered network.	**Inconsistent.** Alternative 1 (No-Build Alternative) would not result in any changes to existing conditions and would, therefore, not achieve the transportation improvements projected to result under Alternative 2 (Build Alternative) by implementing a designated TCL. Although the Project limits do not extend into the boundaries of the City of Redlands, the Project ties into the existing infrastructure within the City of Redlands. Therefore, the Project would influence the operation and safety of I-10 as it traverses through the City of Redlands. Since Alternative 1 (No-Build Alternative) would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits, Alternative 1 (No-Build Alternative) would not be consistent with this action to improve	**Consistent.** As stated above, trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways which have been designed to prioritize automobiles. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slower moving trucks. Although the Project limits do not extend into the boundaries of the City of Redlands, the Project ties into the existing infrastructure within the City of Redlands. Therefore, the Project would influence the operation and safety of I-10 as it traverses through the City of Redlands. Therefore, Alternative 2 (Build Alternative) would result in a more efficient and safe layered transportation network by

Table 2.2-1. Consistency with Plans and Policies

Goals and Policies	Consistency	
	Alternative 1 (No-Build Alternative)	Alternative 2 (Build Alternative)
	and create an efficient layered transportation network.	implementing a TCL along EB I-10 and other improvements, which would influence the operation and efficiency of the adjoining portions of the I-10 freeway system. Therefore, the Project under Alternative 2 (Build Alternative) would be consistent with these actions and policy.

Notes:

Caltrans=California Department of Transportation; EB=eastbound; CEQA=California Environmental Quality Act; dBA=A-weighted decibel; FTIP=Federal Transportation Improvement Program; I-10=Interstate 10; MFL=mixed-flow lane; NEPA=National Environmental Policy Act; RCP=Regional Comprehensive Plan; ROW=right-of-way; RTP=Regional Transportation Plan; SCS=Sustainable Communities Strategy; TCL=truck climbing land; SCAG=Southern California Association of Governments; TM=Transportation and Mobility

2.2.2.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), the Project would not be constructed, and traffic operations and safety would not be improved. Therefore, the Project would be inconsistent with the various goals and policies identified in Table 2.2-1.

Alternative 2 (Build Alternative)

Under Alternative 2 (Build Alternative), the Project would be consistent with the various goals and policies identified in Table 2.2-1 and would not result in growth-related effects, as discussed in Section 2.4, Growth.

2.2.2.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), the Project would not be constructed, and traffic operations and safety would not be improved. Therefore, the Project would be inconsistent with the various goals and policies identified in Table 2.2-1.

Alternative 2 (Build Alternative)

Under Alternative 2 (Build Alternative), the Project is consistent with the various goals and policies identified in Table 2.2-1 and would not result in growth-related effects, as discussed in Section 2.4, Growth.

2.2.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

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2.3 Parks and Recreational Facilities

2.3.1 Regulatory Setting

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

2.3.2 Affected Environment

Within the land use study area, there are two public parks; eight multi-use trails; and two facilities for recreational use. These existing public recreational resources are described in Table 2.3-1 and shown on Figure 2.3-1. There are no public recreational resources within the Project limits.

Table 2.3-1. Existing Public Parks and Recreational Facilities within the Land Use Study Area

Park/Recreational Facility	Location	Description
Avenue I Park	34130 Ave I, Yucaipa, California 92399	Within the City of Yucaipa, this park encompasses approximately 11 acres and provides a variety of recreational opportunities, including softball fields, tennis courts, picnic opportunities, a children's play area, and a basketball court.
Dunlap Channel Trail	Trailhead is located at Yucaipa Boulevard	Within the City of Yucaipa, this 1-mile multi-use trail begins west of the Yucaipa Boulevard and 14th Street intersection and traverses south, ending northeast of the Dunlap Boulevard and 14th Street intersection.
Chapman Heights Trail	Trailhead is located at Chapman Heights Road	Within the City of Yucaipa, this 4.8-mile multi-use trail begins at Chapman Heights Road, traverses east toward Oak Glen Road, and then south west, ending north of the 14th Street and Oak Glen Road intersection.
Cienaga Drive Trail	Trailhead is located at Cienaga Drive and John Wayne Way	Within the City of Yucaipa, this 1.2-mile multi-use trail loop begins at Cienaga Drive and John Wayne Way, traverses northeast toward 8th street, south toward Liberty Road, and back west toward the trailhead.

Table 2.3-1. Existing Public Parks and Recreational Facilities within the Land Use Study Area

Park/Recreational Facility	Location	Description
Unnamed Trail #1	Trailhead is located east of Dunlap Boulevard and 14th Street	Within the City of Yucaipa, this trail 0.10-mile multi-use trail connects the Dunlap Channel Trail and Chapman Heights Trail to Dunlap Boulevard.
Unnamed Trail #2	Trailhead is located west of 14th Street/Calimesa Boulevard and Oak Glen Road	Within the City of Yucaipa, this 0.36-mile multi-use trail connects Unnamed Trail #3 from the intersection of Oak Glen Road Calimesa Boulevard to the Outer 10 Highway Street and Live Oak Canyon Road intersection, and crosses over I-10.
Unnamed Trail #3	Trailhead is located north of 14th Street and Live Oak Canyon Road/Oak Glenn Road	Within the City of Yucaipa, this 1.65-mile multi-use trail connects the Dunlap Channel Trail to Wildwood Wash.
Wildwood Creek Trail	Trailhead is located at the California Street, Yucaipa Creek overcrossing	This 1.7-mile multi-use trail does not connect to other trails and parallels the southern bank of the Wildwood Wash from 6th Place to Bryant Street
Yucaipa Adobe Museum	32183 Kentucky Street, Yucaipa, California 92399	Within the City of Yucaipa, the Yucaipa Adobe Museum is located within the Dunlap Acres Neighborhood and open to the public by fee. The museum is under the jurisdiction of the County of San Bernardino. It contains nineteenth century furnishings, outdoor exhibits of horse-drawn farm implements, and monthly guided tours administered by the Yucaipa Valley Historical Society.
Mesa View Middle School	800 Mustang Way, Calimesa, California 92320	This school is within the Yucaipa-Calimesa Joint Unified School District. Through the joint use agreements with the district, shared public access to school facilities during weekends and after-school programs are provided. Public use of school facilities is available through the submission of a use of facilities application and fee.

Table 2.3-1. Existing Public Parks and Recreational Facilities within the Land Use Study Area

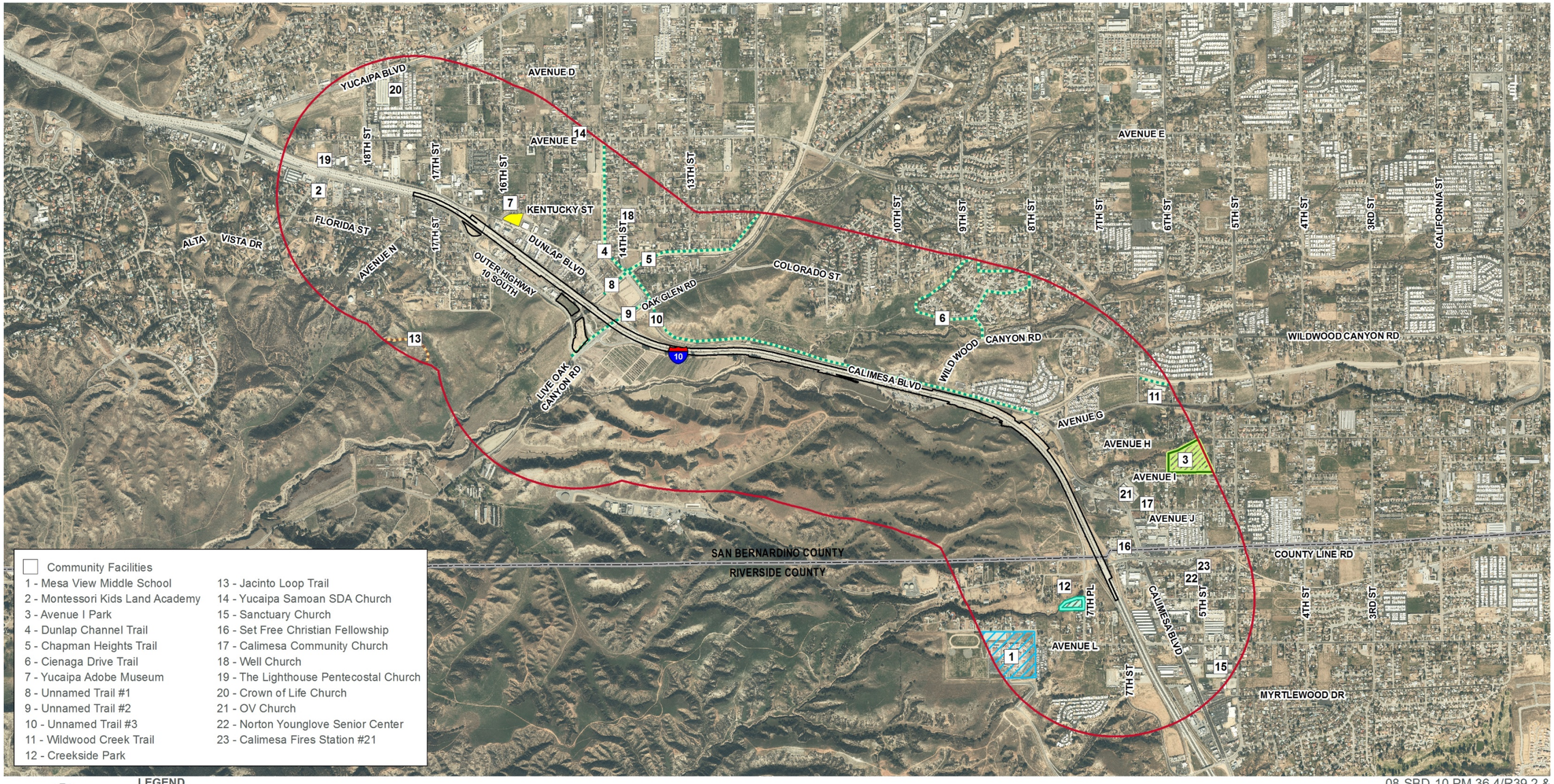
Park/Recreational Facility	Location	Description
Creekside Park	Southwest of the 7th Place and West County Line Road intersection	Within the City of Calimesa, this park encompasses 1.17 acre on 7th Place between West Avenue L and West County Line Road, west of I-10. It includes a comfort station, basketball hoops, a children's play area, and picnic areas.
Jacinto Loop Trail	South of Avenue North and Highview Drive	Within the City of Redlands, this 1.21-mile off-road trail is just south of Avenue North and Highview Drive and connects to two other trails outside of the land use study area. This trail is maintained by the Redlands Conservancy.

Source: City of Yucaipa 2016; City of Calimesa 2014; Redlands Conservancy, n.d.; San Bernardino County 2018

Notes:

I-10=Interstate 10

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Figure 2.3-1. Existing Public Parks and Recreational Facilities

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2.3.3 Environmental Consequences

2.3.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in construction activities. Therefore, no temporary effects on parks or recreation facilities would occur.

Alternative 2 (Build Alternative)

As described in Table 2.3-1 and shown on Figure 2.3-1, there are multiple public recreational resources located within the land use study area. Although Alternative 2 (Build Alternative) would result in temporary effects on five parcels for construction staging, none of the affected parcels are designated as parks or recreational facilities.

During construction, the Project under Alternative 2 (Build Alternative) may result in temporary indirect effects related to increases in noise, emissions from equipment, and direct disruptions to local traffic and circulation along I-10 throughout the Project limits. No temporary closures of recreational facilities within the Project limits would occur as a result of the proposed Project.

Indirect, air quality and GHG impacts related to construction activities would be minimized through Measures AQ-1 through AQ-3 (Section 2.16, Air Quality) and GHG-1 and GHG-2 (Chapter 3, CEQA Checklist) by implementing procedures such as maintaining and cleaning construction equipment, applying fugitive dust control measures, reducing idling vehicles during peak travel times, and requiring that the transportation of material to and from the Project site complies with state standards. Measures N-1 and N-3 (Section 2.17, Noise) would minimize indirect construction effects related to noise through methods such as maintaining vehicles and equipment, utilizing sound-controlling devices, and turning off idling equipment.

Direct temporary disruptions to traffic and circulation during construction would be minimized by implementation of a transportation management plan (TMP), as recommended by Measure TR-1 (Section 2.8, Traffic and Transportation and Bicycle Facilities). The TMP would involve public notification of the upcoming construction work and traffic management during construction activities. Therefore, no adverse temporary effects on existing parks and recreational resources during Project construction would occur.

2.3.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in construction activities. Therefore, no permanent effects on parks or recreation facilities would occur.

Alternative 2 (Build Alternative)

Under Alternative 2 (Build Alternative), no permanent partial or full property acquisition would be required by the Project. Furthermore, the Project is not anticipated to potentially increase the amount of traffic, noise, or worsen air quality beyond projected levels that would adversely impact the quality and use of the recreational resources identified in Table 2.3-1. Therefore, the Project is not anticipated to result in any adverse direct or indirect permanent effects on parks and recreational resources.

Section 4(f)

The resources identified in Table 2.3-1 have been evaluated to determine if they are protected Section 4(f) resources located within the 0.5-mile Section 4(f) land use study area. As further documented in Appendix A, Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination, the resources would not be directly or indirectly impacted in a manner that would adversely impact the features, activities, or attributes that qualify the properties for protection under Section 4(f). Although these parks and recreational facilities within the Section 4(f) land use study area are protected by Section 4(f) of the Department of Transportation Act of 1966, this Project will not “use” those facilities as defined by Section 4(f). Please refer to Appendix A of this IS/EA under the heading, Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination, for additional details.

2.3.4 Avoidance, Minimization, and/or Mitigation Measures

With the implementation of Measures AQ-1 through AQ-3 (Section 2.16, Air Quality), Measures N-1 and N-3 (Section 2.17, Noise), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist), temporary construction impacts on noise, air quality, and traffic would be minimized during construction. No additional avoidance, minimization, and/or mitigation measures are required.

2.4 Growth

2.4.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. The CEQA guidelines (Section 15126.2[d]) require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

2.4.2 Affected Environment

Under NEPA and CEQA, growth inducement is not necessarily considered detrimental, beneficial, or environmentally significant. Typically, the growth inducing potential of a project is considered significant if it fosters growth or a concentration of population in excess of what is assumed in relevant master plans, land use plans, or in projections made by regional planning agencies. Significant growth impacts could be manifested through the provision of infrastructure or service capacity to accommodate growth beyond the levels currently permitted by local or regional plans and policies. In general, growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services or if it can be demonstrated that the potential growth significantly affects the environment in some other way.

This section discusses whether the Project would result in unforeseen direct, indirect, or secondary growth or would otherwise influence growth. The growth impact analysis follows the first--cut screening guidelines provided in the Caltrans' *Guidance for Preparers of Growth-Related, Indirect Impacts Analyses* (Caltrans 2006). Demographic information from 2016-2045 were obtained from the SCAG 2020-2045 RTP/SCS for the Cities of Yucaipa and Calimesa and San Bernardino and Riverside Counties and used to conduct the analysis on potential growth-inducting impacts of the Project.

The growth analysis study area is the same as the community impact study area, which is the Project limits plus a 0.50-mile buffer (Section 2.5, Community Character and Cohesion, Figure 2.-5-1). The growth analysis study area is comprised of five census tracts: Census Tracts 85.00, 87.04, and 87.05 in San Bernardino County, and Census Tracts 438.02 and 438.23 in Riverside County. Factors affecting growth and its effects tend to be regional and specific in nature and, therefore, this analysis presents information about the larger region (San Bernardino and Riverside Counties) and the Cities of Yucaipa and Calimesa that comprise of the growth analysis study area.

The SCAG region is anticipated to add 3.6 million residents, 1.6 million households, and 1.6 million jobs over the RTP/SCS 2016-2045 planning horizon (SCAG 2020). In Table 2.4-1, 2040 SCAG projections were compared with the data provided in the 2019 local profiles (SCAG 2019), which have the most recent socio-economic data for population, household, and employment estimates. The two data sets were compared to evaluate the growth forecasts for the Cities of Yucaipa and Calimesa and Counties of San Bernardino and Riverside. Growth is projected to increase drastically in the Cities of Yucaipa and Calimesa and their respective counties by 29 percent or higher. In addition, the City of Calimesa is projected to increase at a substantially faster rate than the City of Yucaipa and Counties of San Bernardino and Riverside. The projected growth shown includes future planned and programmed projects within the Cities of Yucaipa and Calimesa, as discussed in Section 2.1, Existing and Future Land Use.

Table 2.4-1. Projected City and County Average Growth Rate Percentages (2018-2045)

Jurisdiction	2018[a]	2045	Percent Change between 2012 and 2040
City of Yucaipa			
Population	54,700	72,200	32.0%
Household	19,100	26,100	36.6%
Employment	10,700[b]	17,600	64.5%
San Bernardino County			
Population	2,175,000	2,815,100	29.4%
Household	644,200	875,000	35.8%
Employment	755,200[b]	1,063,700	40.9%

Table 2.4-1. Projected City and County Average Growth Rate Percentages (2018-2045)

Jurisdiction	2018[a]	2045	Percent Change between 2012 and 2040
City of Calimesa			
Population	8,900	20,600	131.5%
Household	3,600	10,400	188.9%
Employment	1,700[b]	4,100	141.2%
County of Riverside			
Population	2,416,000	3,251,900	34.6%
Household	730,000	1,086,200	48.8%
Employment	762,100[b]	1,102,600	44.7%

Source: SCAG 2016, 2019

Notes:

[a] Numerical data from the SCAG 2020-2045 SCS/RTP was rounded to the nearest 100. Therefore, numerical data from 2019 local profiles were rounded to the nearest hundred.

[b] The 2019 local profiles only have data for up to the year 2017; however, the differences in the rates when compared with 2018 are not anticipated to be significant.

The high growth rate projections might be attributed to the large available land area designated by local jurisdictions for development. As described in Section 2.1, Existing and Future Land Use, I-10 traverses through undeveloped or vacant land designated for regional commercial or business park land uses and through open space within the City of Yucaipa. These undeveloped areas are currently used by rural or agricultural uses and a resting stop. For the portion of the Project within the City of Calimesa, on the west side of the Project limits, land uses with this area consist of undeveloped land designated for community commercial. Due to available undeveloped land in the growth analysis study area, there are opportunities for large-scale new development to occur in the growth analysis study area.

2.4.3 Environmental Consequences

Direct growth-inducing impacts are permanent impacts generally associated with the provision of urban services and the extension of infrastructure to an undeveloped area. The extension of services and facilities to an individual site can reduce development constraints for other nearby

areas and can serve to induce further development in the vicinity. Indirect or secondary growth-inducing impacts consist of growth in the area by additional demand for housing, employment, and goods and services associated with population increases caused by, or attached to, new development.

The growth-related impacts analysis was conducted for the Project using the *Guidance for Preparers of Growth-Related, Indirect Impact Analyses* (Caltrans 2006*)*, which was developed by an interagency work group that included representatives from Caltrans, FHWA, and the U.S. Environmental Protection Agency (EPA). This guidance document focuses on the influence that transportation projects may have on growth and development. The analysis of growth-related impacts was developed by applying the following steps from the guidance document:

- Identify the potential for growth for each alternative (will the project change the location, rate, type, or amount of growth?)
- Assess the growth-related effects of each alternative to resources of concern (will these resources be affected?)
- Consider additional opportunities to avoid and minimize growth-related impacts
- Compare the results of the analysis for all alternatives
- Document the process and findings of the analysis

Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in construction activities. Therefore, no temporary growth-related impacts are anticipated.

Alternative 2 (Build Alternative)

Alternative 2 (Build Alternative) would create short-term jobs. While the Project would generate additional employment opportunities during construction, the majority of these jobs are expected to be filled by residents of the Cities of Yucaipa and Calimesa, as well as surrounding communities. Therefore, substantial population growth impacts associated with Project construction is not anticipated.

Permanent Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), no modifications to the existing freeway facility would occur. The existing condition of I-10 within the growth analysis study area would not provide the transportation infrastructure or meet the goals and objectives of the SCAG 2020-2045 RTP/SCS. This regional planning document anticipates the growth planned within the local jurisdictions within San Bernardino and Riverside Counties, specifically the growth analysis study area, and responds to this projected growth. As Alternative 1 (No-Build Alternative) would not result in construction activities, it not anticipated to influence the amount, location, and/or distribution of growth or housing and jobs in the local cities within the growth analysis study area. Existing conflicts between automobiles and slow-moving trucks would remain within the growth analysis study area and is projected to continue in the future under Alternative 1 (No-Build Alternative).

Alternative 2 (Build Alternative)

The potential growth-related impacts of the proposed Project were considered using the "first-cut screening" analysis and are summarized in Table 2.4-2.

Table 2.4-2. Summary of First-Cut Screening Analysis

Screening Criteria	Project Consideration
How, if at all, does the proposed Project potentially change accessibility?	Under Alternative 2 (Build Alternative), the Project would maximize mobility and accessibility in the region by improving operational safety and efficiency through the implementation of the Project components, which include converting the existing third MFL to a TCL along EB I-10 by creating a new interior MFL within the existing median, constructing new concrete barriers in the new centerline that would adjoin to existing concrete barriers north and south of the Project limits, paving and restriping, adding a new interior EB MFL, installing signage, upgrading existing drainage facilities, and widening the median of Oak Glen Creek Bridge. The Project would not change accessibility by widening the physical structure of the freeway, realigning streets, or on- and off-ramps. Instead, the Project would create a more efficient and safe transportation system within the area. Therefore, the Project would not encourage unanticipated growth in the area, as the Project would not result in new access to areas that previously had no access.

Table 2.4-2. Summary of First-Cut Screening Analysis

Screening Criteria	Project Consideration
How, if at all, do the Project type, Project location, and growth pressure potentially influence growth?	The Project would implement safety and efficiency improvements to existing infrastructure. The proposed improvements would address existing and projected future congestion within the Project limits. Although it is anticipated that the population and employment growth within the San Bernardino and Riverside Counties will increase, these projections are not based on the implementation of this Project. The purpose of the proposed Project improvements is to separate trucks and other slow-moving vehicles from faster moving passenger vehicles to improve operations and reduce the frequency of truck-related accidents. The improvements to EB I-10 would not be a catalyst for population growth or employment. Alternative 2 (Build Alternative) would not affect variables such as economic opportunities, employment, or housing availability, which directly affect local and regional development growth.
Is Project-related growth reasonably foreseeable as defined in NEPA? Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative.	The proposed Project is consistent with the adopted Final 2019 FTIP, SCAG 2020-2045 RTP/SCS, and the transportation goals and policies of the Cities of Yucaipa and Calimesa's General Plans. Growth in the Cities of Yucaipa and Calimesa is expected to occur with or without the Project because, as stated previously, the proposed Project, on its own, cannot affect variables that contribute to growth. Therefore, Project-related growth is not reasonably foreseeable. The proposed Project would add a TCL along EB I-10 by creating a new interior MFL within the existing median and converting the existing third MFL to a dedicated TCL for trucks and other slow-moving vehicles. The Project would not influence the amount, timing, or location of growth in the area. Therefore, no growth-related impacts are anticipated as a result of Alternative 2 (Build Alternative).

Table 2.4-2. Summary of First-Cut Screening Analysis

Screening Criteria	Project Consideration
If there is Project-related growth, how, if at all, will it affect resources of concern?	Within the Project limits, the existing corridor is made up of a median and three 12-foot-wide MFLs. The proposed Project would add a new MFL by repaving and striping the existing median to maintain the three MFLs along EB I-10 and convert the existing third MFL to the proposed dedicated TCL for trucks and slow-moving vehicles within the 3-mile stretch of the Project limits. The Project would be implemented within an existing transportation corridor and redistribute and reorder vehicular traffic to improve operation and safety along this stretch of EB I-10. Although there is land available for development, there is no lack of existing infrastructure in the growth analysis study area that would serve as an obstacle to growth, and the Project would not construct new infrastructure that would directly or indirectly induce growth. Projected population growth would occur in the growth analysis study area with or without the additional infrastructure associated with the Project. In addition, potential growth has already been captured in plans adopted at the local and regional level. Therefore, no additional impacts associated with resources of concern are anticipated as a result of Alternative 2 (Build Alternative).

Notes:
EB=eastbound; FTIP=Federal Transportation Improvement Program; I-10=Interstate 10; MFL=mixed flow lane; NEPA=National Environmental Policy Act; RTP=regional transportation plan; SCAG=Southern California Association of Governments; SCS=sustainable communities strategy; TCL=truck climbing lane

The proposed Project would not establish new homes, result in permanent employment opportunities, or provide any new access into areas that previously had no access. The Project would result in transportation facility improvements that would improve the safety and operations of EB I-10 within the growth analysis study area, resulting in improvements in accessibility to the overall transportation system. Additionally, these improvements are already planned and programmed in the adopted Final 2019 FTIP (SCAG 2018) and SCAG 2020-2045 RTP/SCS (SCAG 2020). Based on the analysis in Table 2.4-2, implementation of the proposed Project would not result in additional substantial growth from what has already been identified in the SCAG 2020-2045 RTP/SCS.

The Project is not proposing to build new roadways or widen EB I-10. Although the Cities of Yucaipa and Calimesa are not completely built out, including the surrounding areas of the Project limits, the

Project would not change the commercial, business park, or industrial planned land uses already designated by the Cities of Yucaipa and Calimesa's General Plans.

The Project purpose is to separate trucks and other slow-moving vehicles from faster moving passenger vehicles to improve operations and reduce the frequency of truck-related accidents. Therefore, implementation of this Project would not encourage growth that is not already projected or planned for this area. Therefore, no adverse impacts in the form of growth inducement are anticipated under Alternative 2 (Build Alternative).

2.4.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.5 Community Character and Cohesion

2.5.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this Project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the Project's effects.

2.5.2 Affected Environment

This section discusses potential effects on the community character and cohesion of the affected community. Information from this section is based on the *City of Yucaipa General Plan* (City of Yucaipa 2016), City of Calimesa *General Plan* (City of Calimesa 2014), *City of Redlands General Plan 2035* (City of Redlands 2017), and demographic data from the 2013-2017 American Community Survey (ACS) 5-year Estimates (U.S. Census Bureau 2017).

Community character is all of the attributes, including social and economic characteristics, and assets that make a community unique and establish a sense of place for its residents. Community cohesion is the degree to which residents have a sense of belonging to their neighborhood; a level of commitment of the residents to the community; or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time (Caltrans 2011b).

The demographics of the community impact study area's population, housing characteristics, and economic conditions and trends have been evaluated because they influence the character and cohesion of a community. The longer residents have lived within their community and the more homogenous the population, it can be assumed that the level of cohesion and character would be stronger in these communities than those that have a transient population with largely different social and economic backgrounds (i.e., age, ethnicity, and income). This section identifies the types of

transit facilities, highways, and streets that may be effected within the community impact study area by the Project.

Impacts on community cohesion within the community impact study area will also be assessed for Project disruption to the local community. Demographic data from the U.S. Census Bureau and information from the general plans and community profiles provided by the Cities of Yucaipa and Calimesa will also be used to measure the degree of community cohesion.

2.5.2.1 Community Impact Study Area

The community impact study area, as shown on Figure 2.5-1, includes the area within the 0.5-mile buffer from the Project limits. Within the community impact study area, the following five census tracts were identified: Census Tracts 85, 87.04, and 87.05 within the County of San Bernardino; and Census Tracts 438.02 and 438.23 with the County of Riverside. Census Tract 85 is within the City of Yucaipa and City of Redlands, and a small portion of the City of Redlands is within the 0.5-mile community impact study area; however, the Project limits do not extend into the City of Redlands jurisdictional boundaries. Census Tract 438.23 also overlaps with the City of Calimesa and unincorporated areas of the County of Riverside; however, the unincorporated area is not within the community impact study area.

Census tracts were used because they are the most complete data set for the level of detail required to analyze the surrounding demographic and socioeconomic character generally associated with the community impact study area. Census tracts are also used to incorporate populations that may not be directly affected by the Project but may be indirectly affected by Project construction and operation. To assess the potential for the Project to adversely or beneficially affect community character and cohesion, demographic characteristics of these census tracts were evaluated utilizing data from the 2013-2017 ACS 5-year Estimates (U.S. Census Bureau 2017).

Within the community impact study area, direct and indirect effects on land use, growth, community services, utilities, and traffic and transportation, as well as community character and cohesion, are analyzed below.



Figure 2.5-1. Community Impact Study Area

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2.5.2.2 Community Character

Neighborhoods and Districts

The neighborhoods and districts within the community impact study area (Figure 2.5-2) are described by various specific plans, planning areas, and overlay districts.

Freeway Corridor Planning Area

The Freeway Corridor Planning area is guided by the Freeway Corridor Specific Plan. This planning area encompasses 1,242 acres of land in the southeastern portion of the City of Yucaipa and includes existing suburban/semirural uses and land set aside for future planned developments, such as a regional commercial center, commercial and business parks, and up to 2,500 new dwelling units (City of Yucaipa n.d.a). The planning area includes areas on both sides of the Project limits and I-10 mainline.

As noted above, the planning area within the community impact study area is currently comprised of mostly vacant land with scattered single-family homes and commercial uses.

Dunlap Acres Planning Area

The Dunlap Acres Planning Area extends south of Yucaipa Boulevard and west of Oak Glen Road. The area has retained its rural character with lower density residential developments on large lots (City of Yucaipa 2016).

Within the planning area is the Dunlap Industrial Corridor, which encompasses a 150-acre industrial and manufacturing district that is home to the majority of the industrial and regional commercial businesses within the City of Yucaipa. The district is located along the north side of I-10, north of the Oak Glen Road and Live Oak Canyon Road interchange (City of Yucaipa n.d.a). The district also serves as the gateway to the City of Yucaipa and an important economic engine for the community.

This planning area also has low density and housing, which includes scattered single-family homes as well as a Mobile Home Park Overlay District 1, located within the outermost portion of the community impact study area between Yucaipa Boulevard and Avenue E. As noted in the City of Yucaipa's General Plan, the city established one of the largest inventories of mobile home parks in the country during the 1950s. Mobile homes account for over 25 percent of the City of Yucaipa's housing and provides affordable housing options for residents.

Central Yucaipa Planning Area. The community impact study area also overlaps with the Central Yucaipa Planning Area. This planning area is located east of Oak Glen Road and south of the Yucaipa Regional Park to I-10 and is characterized by a mix of lot sizes, including single- and

multi-family housing. However, a majority of the housing in this planning area is located outside of the community impact study area.

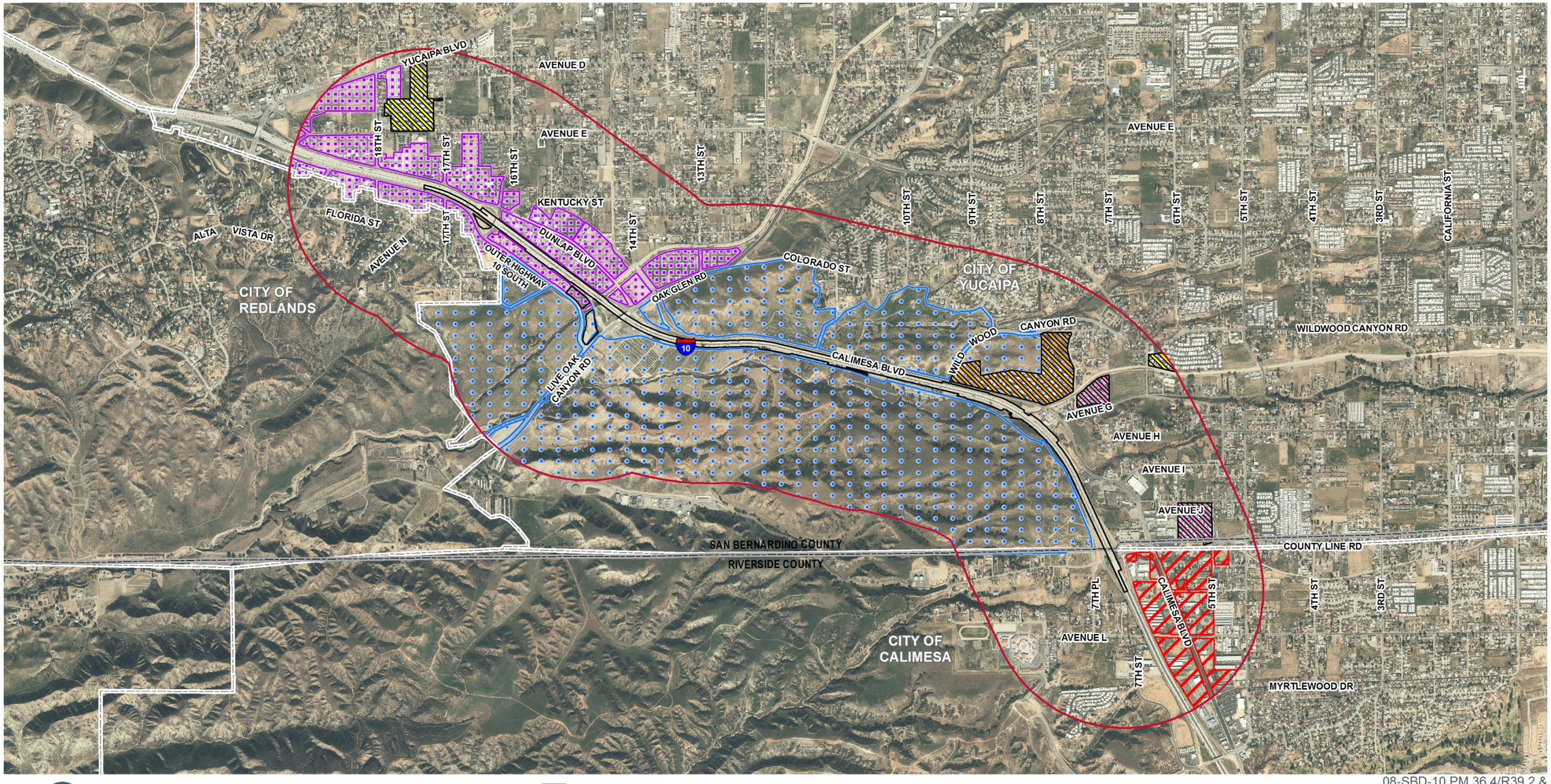
This planning area which includes mobile homes within Mobile Home Park Overlay District 2 and Mobile Home Park Overlay District 3. The Hillcrest Mobile Estate, which is adjacent to the Project limits, is within the Mobile Home Park Overlay District 2 and includes mobile home parks restricted for affordable housing and senior occupancy. The Hillcrest Mobile Estate is also protected from transition into uses not designated for mobile homes by the overlay district.

Downtown Business District

Within the City of Calimesa, the community impact study area overlaps with the City of Calimesa's Downtown Business District, which is located west of I-10, between County Line Road and Sandalwood Drive, with a small portion of the Mesa Verde Estates Specific Plan located west of I-10 at the most southern portion of the community impact study area. The Downtown Business District is where the City of Calimesa intends to focus development to create a pedestrian-friendly downtown with mixed-use development. Currently, this area is characterized by low-scale development with local community serving commercial uses.

Southern Hills and Canyon Area

A small portion of the community impact study area is located within the City of Redlands. This area is characterized by areas designated for open space and resource preservation. Resource preservation only allows for limited permitted uses to protect the existing ecology that are important for water conservation. The area is also within the Southern Hills and Canyon Area, which is defined by the San Timoteo and Live Oak Canyons (City of Redlands 2017). Development in this area is limited and primarily consists of large single-family homes on large lots and open areas. Therefore, no future major development projects are anticipated for this area.



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Figure 2.5-2. Existing Specific Plans and Overlays

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Economics

According to the *City of Yucaipa General Plan* (City of Yucaipa 2016), nearly half of the resident's retail expenditure takes place outside of Yucaipa. Taxable sales per household were less than a third of the level countywide and approximately 9 out of 10 of the employed residents commute outside of the city for work. The City of Yucaipa's local economy is still developing, and the city acknowledges that how land is developed and used in the city greatly determines the amount of revenues the city receives and the costs required to provide public facilities and services. The key focus areas for economic development, as identified within the *City of Yucaipa General Plan,* that overlap with the community impact study area include the Freeway Corridor and Dunlap Acres Planning Areas. The Dunlap Industrial Corridor, which is within Dunlap Acres Planning Area, is the only area within the city that allows for light industrial uses. Meanwhile, the Freeway Corridor Planning Area includes land that is mostly undeveloped and intended for retail, office, and residential development. The Freeway Corridor Planning Area also has the potential to accommodate office-based businesses to increase the number of jobs available in Yucaipa.

The City of Calimesa has the smallest population of the three cities and is generally characterized as having a more small-town feel. Calimesa does not have a chapter within its General Plan dedicated to economic development; however, according to the 2019 Local Profile from SCAG (SCAG 2019), retail sales are much lower than the County of Riverside's average. Additionally, 94.6 percent of residents commute outside of the city for work. For the portion of the community impact study area located within the City of Calimesa, a large portion is within Calimesa's Downtown Business District. Within this district are opportunities to support additional growth for employment and demand for additional community services or retail. There are land uses designated for commercial and light industrial uses within the Downtown Business District that are observed to be undeveloped. The *City of Calimesa General Plan* also identifies the need to encourage development of commercial and industrial centers to expand the employment and fiscal base of Calimesa.

According to the *City of Redlands General Plan 2035* (City of Redlands 2017), Redlands is increasingly emerging as a retail center for the surrounding region. Per capita taxable retail sales in Redlands were about $12,000, slightly above the countywide average of about $10,000. There is a portion of land within the city known as the "Donut Hole" that is approximately 1,100 acres. This portion of land is shared between the City of Redlands and the County of San Bernardino, 120 acres of which offers approximately 1.2 million square feet of retail, hospitality, and entertainment. The sales tax does not get allocated to the City of Redlands; however, the local tax revenues from the "Donut Hole" are split 90/10 between the city and county because the city provides service to the area. Similar to the Cities of Yucaipa and Calimesa, the City of Redlands has focused development

of warehousing for distribution, industrial, and manufacturing near I-10. Vacancy rates of industrial and manufacturing have dropped from 25 percent in 2009 to 11 percent in 2014.

All three cities acknowledge I-10 as an important conduit for future growth and realize there are opportunities for each to capitalize on the projected growth for the region. Therefore, each city is identifying and preserving areas that would serve as an attractive environment for future growth and retention of employment and businesses.

Employment

Table 2.5-1 shows the breakdown of labor force characteristics for the ages of 16 and over within the community impact study area using data gathered from the U.S Census Bureau 2013-2017 ACS 5-year Estimate. The strongest economic sectors that are observed to have approximately 10 percent or more of the labor force within almost all geographic areas within the community impact study area include Educational Services and Health Care and Social Assistance; Professional, Scientific, Management, and Administrative and Waste Management Services; and Retail Trade.

Table 2.5-2 shows the unemployment rate for the population over the ages of 16 and over within the community impact study area using data gathered from the U.S Census Bureau 2013-2017 ACS 5-year Estimate. For Census Tracts 85 and 438.02, the rate of unemployment for the ages between 16 and 29 are relatively high, especially within Census Tract 85. Census Tracts 438.23 and 87.05 also have relatively high unemployment for age ranges below the age of 29. These unemployment rates for ages under 29 in the aforementioned census tracts may be a result of the close proximity of the University of Redlands and Crafton Hills Community College to the community impact study area. Census Tract 438.02 also has a high unemployment rate for the ages between 55 and 64, possibly as a result of retirees. As discussed further below, the City of Calimesa has the oldest median age when compared with the Cities of Yucaipa and Redlands.

Table 2.5-1. Existing Economic Statistics (Percentage of Employees)

Economic Sectors	Geographic Area within the Community Impact Study Area									
	County of San Bernardino (%)	City of Yucaipa (%)	City of Redlands (%)	Census Tract 85.0[a] (%)	Census Tract 87.04 (%)	Census Tract 87.05 (%)	County of Riverside (%)	City of Calimesa (%)	Census Tract 438.02 (%)	Census Tract 438.23 (%)
Agriculture, Forestry, Fishing, and Hunting and Mining	0.7	1.2	0.6	2.1	0.6	2.1	1.5	0.6	0.4	0.3
Construction	7.3	8.4	4.4	7.8	7.8	5.9	8.5	10.0	11.2	1.8
Manufacturing	9.1	4.2	6.2	6.0	4.5	7.8	8.7	7.5	8.9	6.8
Wholesale Trade	13.0	2.6	2.2	1.9	1.1	0.0	3.0	5.3	3.9	2.3
Retail Trade	13.0	14.3	11.5	4.7	14.9	20.2	12.9	12.4	11.2	10.3
Transportation and Warehousing, and Utilities	9.1	5.5	7.2	2.3	11.4	2.9	6.2	4.7	5.0	7.2
Information	1.3	2.1	1.0	1.6	1.5	2.0	1.5	1.4	1.1	2.6

Table 2.5-1. Existing Economic Statistics (Percentage of Employees)

Economic Sectors	Geographic Area within the Community Impact Study Area									
	County of San Bernardino (%)	City of Yucaipa (%)	City of Redlands (%)	Census Tract 85.0[a] (%)	Census Tract 87.04 (%)	Census Tract 87.05 (%)	County of Riverside (%)	City of Calimesa (%)	Census Tract 438.02 (%)	Census Tract 438.23 (%)
Finance, Insurance, Real Estate, and Rental and Leasing	4.9	4.9	4.5	9.0	2.2	1.1	5.2	5.4	6.2	3.4
Professional, Scientific, Management, and Administrative and Waste Management Services	9.3	9.7	9.2	13.5	9.5	12.7	10.2	9.6	8.4	8.7
Educational Services, and Health Care and Social Assistance	22.5	24.4	35.3	36.7	23.6	18.8	11.5	25.2	27.3	34.5

Table 2.5-1. Existing Economic Statistics (Percentage of Employees)

Economic Sectors	Geographic Area within the Community Impact Study Area									
	County of San Bernardino (%)	City of Yucaipa (%)	City of Redlands (%)	Census Tract 85.0[a] (%)	Census Tract 87.04 (%)	Census Tract 87.05 (%)	County of Riverside (%)	City of Calimesa (%)	Census Tract 438.02 (%)	Census Tract 438.23 (%)
Arts, Entertainment, Recreation, and Accommodation and Food Services	8.9	9.2	7.4	2.1	0.6	12.6	11.5	9.3	10.7	12.0
Other Services, except Public Administration	5.2	6.9	5.5	7.8	7.8	6.1	5.3	2.6	2.6	1.0
Public Administrative	5.3	6.4	4.8	6.0	4.5	7.9	4.8	6.1	3.2	9.2

Source: U.S. Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

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Table 2.5-2. Existing Unemployment Status

Age	Geographic Area within the Community Impact Study Area									
	County of San Bernardino (%)	City of Yucaipa (%)	City of Redlands (%)	Census Tract 85.0[a] (%)	Census Tract 87.04 (%)	Census Tract 87.05 (%)	County of Riverside (%)	City of Calimesa (%)	Census Tract 438.02 (%)	Census Tract 438.23 (%)
Unemployment Rate for Population 16 years and over	9.9	6.8	6.8	5.5	2.8	7.3	9.9	10.3	10.0	2.6
16 to 19 years	33.3	16.7	17.6	46.9	0.0	0.0	32.8	19.7	23.6	15.2
20 to 24 years	16.3	8.9	12.4	20.4	2.4	12.3	16.9	14.3	18.0	0.0
25 to 29 years	11.2	11.8	11.0	34.2	0.0	3.9	11.9	8.8	8.8	1.7
30 to 34 years	8.9	2.7	3.6	0.0	0.0	14.0	8.7	7.1	7.1	0.0
35 to 44 years	7.7	3.7	5.4	1.7	4.8	4.3	7.4	0.0	0.0	5.1
45 to 54 years	7.1	7.5	5.5	1.8	5.6	8.8	6.5	10.5	9.5	0.7
55 to 59 years	6.5	8.2	4.9	0.0	0.0	4.7	7.1	24.5	18.1	4.9
60 to 64 years	5.1	4.8	3.5	0.0	4.7	16.9	7.5	29.5	30.8	0.0
65 to 74 years	5.1	1.1	4.5	0.0	0.0	0.0	6.6	5.4	5.2	0.0

Table 2.5-2. Existing Unemployment Status

Age	Geographic Area within the Community Impact Study Area									
	County of San Bernardino (%)	City of Yucaipa (%)	City of Redlands (%)	Census Tract 85.0[a] (%)	Census Tract 87.04 (%)	Census Tract 87.05 (%)	County of Riverside (%)	City of Calimesa (%)	Census Tract 438.02 (%)	Census Tract 438.23 (%)
75 years and over	5.9	0.0	7.9	0.0	—[b]	0.0	7.2	0.0	0.0	—[b]

Source: U.S. Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

[b] Census tract data is not available or data may not be available because of the number of sample cases is too small.

Income

Table 2.5-3 shows the income and poverty statistics of the selected geographic areas within the community impact study area. Census Tract 87.05 has the lowest median income and highest level of poverty when compared with the other census tracts in the community impact study area, as well as when compared with its respective city and county of comparison. Despite having a high rate of unemployment for the ages of 16 through 29 (Table 2.5-2), Census Tract 85 has the highest median income within the community impact study area. Poverty guidelines (2017) from the U.S. Department of Health and Human Services (DHHS) are being used to be consistent with the latest ACS 5-year Estimate 2013-2017 data sets that have been pulled for this analysis. The poverty threshold for a family of four is households earning $24,600 or less (U.S. DHHS 2017).

Table 2.5-3. Existing Regional and Local Income Characteristics

Geographic Area within the Community Impact Study Area	Median Household Income (U.S. $)	Percent of People Below Poverty Level (%)
County of San Bernardino	57,156	18.2
City of Yucaipa	58,166	14.5
City of Redlands	68,956	15.3
Census Tract 85.0[a]	123,806	6.6
Census Tract 87.04	60,049	8.4
Census Tract 87.05	49,826	27.8
County of Riverside	60,807	15.6
City of Calimesa	50,174	12.1
Census Tract 438.02	62,036	11.2
Census Tract 438.23	112,117	4.8

Source: U.S. Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

U.S.=United States

Community Facilities

According to the Caltrans SER Environmental Handbook Volume 4 (Caltrans 2011b), community facilities contribute to community cohesion in many ways. Community facilities are services and institutions that the local population relies on for their health and welfare and as a means to interact with other members of the community. Community facilities include schools, recreational facilities, healthcare facilities, emergency services, community centers, and other similar institutions.

Schools

As shown on Figure 2.5-3, there is one private preschool in the City of Redlands and one public middle school in the City of Calimesa that are within the community impact study area. There are no public or private schools that have been identified within the City of Yucaipa and community impact study area. Table 2.5-4 lists and describes these two schools. The two schools are not directly adjacent to the Project limits.

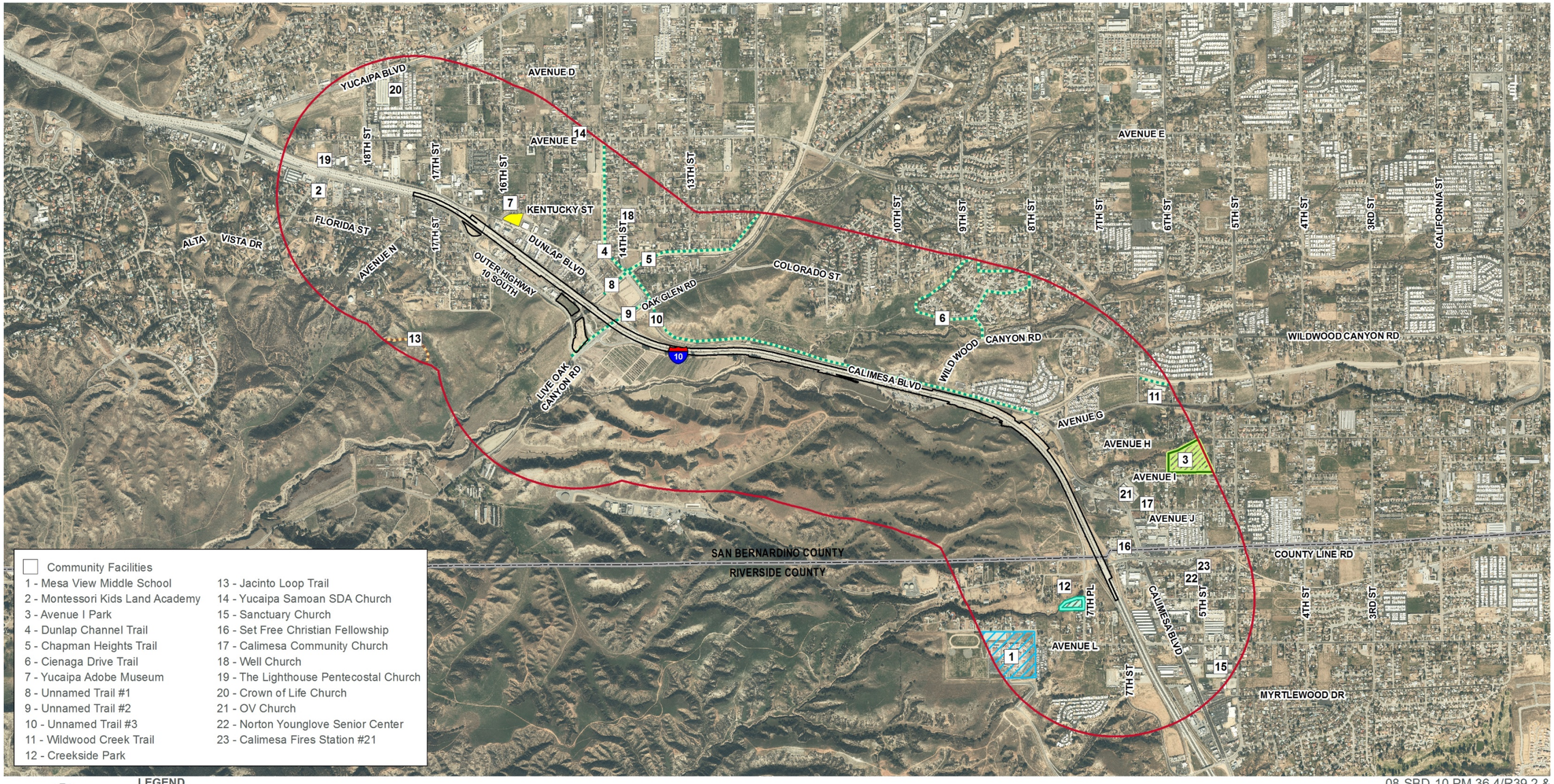
Table 2.5-4. Schools within the Community Impact Study Area

Figure 2.5-3 Identification Number	School	Location	Description
1	Mesa View Middle School	800 Mustang Way, Calimesa, California 92320	This school is within the Yucaipa-Calimesa Joint Unified School District. The school has been active since 2009 and includes grades 6 to 8. Through the joint use agreements with the district, shared public access to school facilities during weekends and after-school programs are provided.
2	Montessori Kids Land Academy	31587 Alta Vista Drive, Redlands, California 92373	This school is an infant and toddler daycare center and pre-school run by a private entity.

Source: California Board of Education n.d.; Montessori Kids Land Academy n.d.; Mesa View Middle School n.d.

Recreational Facilities

As shown on Figure 2.5-3, within the community impact study area, there are two public parks, eight existing trails, and two facilities that provide recreational activity within the Cities of Yucaipa, Calimesa, and Redlands. Table 2.5-5 lists and describes the existing trails, parks, and open space areas within the community impact study area.



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Figure 2.5-3. Existing Recreational and Community Facilities

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Table 2.5-5. Parks and Recreational Facilities within the Community Impact Study Area

Figure 2.5-3 Identification Number	Park	Location	Description
3	Avenue I Park	34130 Ave I, Yucaipa, California 92399	Within the City of Yucaipa, this park encompasses approximately 11 acres and provides a variety of recreational opportunities including softball fields, tennis courts, picnic opportunities, a children's play area, and basketball hoops.
4	Dunlap Channel Trail	Trailhead is located at Yucaipa Boulevard	Within the City of Yucaipa, this 1-mile multi-use trail begins west of the Yucaipa Boulevard and 14th Street intersection and traverses south, ending northeast of the Dunlap Boulevard and 14th Street intersection.
5	Chapman Heights Trail	Trailhead is located at Chapman Heights Road	Within the City of Yucaipa, this 4.8-mile multi-use trail begins at Chapman Heights Road, traverses east toward Oak Glen Road, and then southwest, ending north of the 14th Street and Oak Glen Road intersection.
6	Cienaga Drive Trail	Trailhead is located at Cienaga Drive and John Wayne Way	Within the City of Yucaipa, this 1.2-mile multi-use trail loop begins at Cienaga Drive and John Wayne, traverses northeast toward 8th Street, south toward Liberty Road, and back west toward the trailhead.
7	Yucaipa Adobe Museum	32183 Kentucky Street, Yucaipa, California 92399	Within the City of Yucaipa, this museum is a California Historic Landmark (No. 528) that is open to the public by fee. The museum is under the jurisdiction of the County of San Bernardino. It contains nineteenth century furnishings, outdoor exhibits of horse-drawn farm implements, and monthly guided tours administered by the Yucaipa Valley Historical Society.
8	Unnamed Trail #1	Trailhead is located east of Dunlap Boulevard and 14th Street	Within the City of Yucaipa, this trail 0.10-mile multi-use trail connects the Dunlap Channel Trail and Chapman Heights Trail to Dunlap Boulevard.

Table 2.5-5. Parks and Recreational Facilities within the Community Impact Study Area

Figure 2.5-3 Identification Number	Park	Location	Description
9	Unnamed Trail #2	Trailhead is located west of 14th Street/Calimesa Boulevard and Oak Glen Road	Within the City of Yucaipa, this 0.36-mile multi-use trail connects Unnamed Trail #3 from the intersection of Oak Glen Road Calimesa Boulevard to the Outer 10 Highway Street and Live Oak Canyon Road intersection, and crosses over I-10.
10	Unnamed Trail #3	Trailhead is located north of 14th Street and Live Oak Canyon Road/Oak Glenn Road	Within the City of Yucaipa, this 1.65-mile multi-use trail connects the Dunlap Channel Trail to Wildwood Wash.
11	Wildwood Creek Trail	Trailhead is located at the California Street, Yucaipa Creek overcrossing	This 1.7-mile multi-use trail does not connect to other trails and parallels the southern bank of the Wildwood Wash from 6th Place to Bryant Street
12	Creekside Park	Southwest of the 7th Place and West County Line Road intersection	Within the City of Calimesa, this park encompasses 1.17 acre on 7th Place between West Avenue L and West County Line Road, west of I-10. It includes a comfort station, basketball hoops, a children's play area, and picnic areas.
13	Jacinto Loop Trail	South of Avenue North and Highview Drive	Within the City of Redlands, this 1.21-mile off-road trail is just south of Avenue North and Highview Drive and connects to two other trail outside of the community impact study area. This trail is maintained by the Redlands Conservancy.

Source: City of Yucaipa 2016; City of Calimesa 2014; Redlands Conservancy, n.d.

Notes:

I-10=Interstate 10

Healthcare Facilities

There are no major hospitals or medical facilities within the community impact study area. The closest major hospital to the Project limits is the City of Redlands Community Hospital, located at 350 Terracina Boulevard, approximately 5 miles north of the Project limits.

The most urbanized and developed area of the City of Yucaipa is northeast of the community impact study area. Most of the community resources that would include smaller health care clinics or facilities are clustered in areas where the majority of residential and general commercial uses are located. The closest health facility to the Project limits is Yucaipa Urgent Care, located at 33494 Oak Glen Road, approximately 1.3 mile north of the Project limits.

The most urbanized and developed area of the City of Calimesa is just east of the community impact study area. Most of the community resources are also clustered in areas where the majority of residential and general commercial uses are located.

Community Centers

Community Centers may include police and fire stations, churches, senior and youth centers, and libraries that provide services for the community. Within the community impact study area, there are no police stations and one fire station. The location of these emergency facilities is further discussed in Section 2.7, Utilities and Emergency Services. As shown on Figure 2.5-3, these community facilities are not located directly adjacent to the Project limits. Table 2.5-6 list and describes these facilities.

Table 2.5-6. Community Facilities within the Community Impact Study Area

Figure 2.5-3 Identification Number	School	Location	Description
14	Yucaipa Samoan SDA Church	32360 Avenue E, Yucaipa, California 92399	Church services are on Saturday beginning at 9:15 a.m. for Sabbath school and 11:00 a.m. for worship services.
15	Sanctuary Church	1090 5th Street #102, Calimesa, California 92320	Church services are on Sunday at 9:00 a.m. and 11:00 a.m. and Wednesdays from 6:30 p.m. to 8:30 p.m. for worship services. Additionally, the church hosts events for summer camp and retreats that are open to the members and the public.

Table 2.5-6. Community Facilities within the Community Impact Study Area

Figure 2.5-3 Identification Number	School	Location	Description
16	Set Free Christian Fellowship	13700 Calimesa Boulevard, Yucaipa, California 92399	Church services are on Sunday at 9:30 a.m. and Wednesday at 6:15 p.m.
17	Calimesa Community Church	34030 Ave J, Yucaipa, California 92399	Information on the church's hours of operation and events were not listed or available.
18	Well Church	12717 14th Street, Yucaipa, California 92399	Church services are on Sundays at 8:30 a.m., 10:15 a.m., and noon. The church hosts events for summer camps and sports events and also includes a courtyard and small playground.
19	The Lighthouse Pentecostal Church	31646 Dunlap Boulevard, Yucaipa, California 92399	Church services are on Sunday at 10:30 a.m. and 6:30 p.m., and Wednesday at 7:30 p.m. The church hosts social gatherings such as family day events.
20	Crown of Life Church	31785 Yucaipa Boulevard,, Yucaipa, California 92399	Church services are on Sunday at 10 a.m.
21	OV Church	13553 Calimesa Boulevard, Yucaipa, California 92399	Church services are on Sunday from 9 a.m. to 12:30 p.m. The church hosts community events and summer camps.

Table 2.5-6. Community Facilities within the Community Impact Study Area

Figure 2.5-3 Identification Number	School	Location	Description
22	Norton Younglove Senior Center	908 Park Avenue, Calimesa, California 92320	The Norton Younglove Multipurpose Senior Center, in cooperation with the Riverside County Office of Aging, provides hot lunches 5 days per week on location. The Norton Younglove Multipurpose Senior Center also offers a number of services for all ages, including a Senior Lunch Program, special events, bingo, trips, and classes. Citizens may also rent the facility for weddings, family gatherings, meetings, or seminars. Hours of operation are from 8:30 a.m. to 4:00 p.m. Monday through Thursday and 8:30 a.m. to noon Fridays.
23	Calimesa Fire Station #21	906 Park Avenue, Calimesa, California 92320	Staffing includes a fire chief, deputy fire chief, three captains, six firefighters and a pool of intern/reserve firefighters. The County of Riverside also provides support to the Calimesa Fire Department.

Source: California Board of Education n.d.; Montessori Kids Land Academy n.d.; Mesa View Middle School n.d.; City of Calimesa n.d.b

Community Cohesion

Household

Table 2.5-7 summarizes the housing occupancy characteristics within the community impact study area. For all the census tracts within the community impact study area, the majority of residents own rather than rent. Census Tract 87.05 has the most even distribution of renters versus owners.

Table 2.5-7. Existing Occupancy Characteristics

Geographic Area within the Community Impact Study Area	Total Housing Units	Vacant (%)	Occupied (%)	Type of Occupancy	
				Owner (%)	Renter (%)
County of San Bernardino	711,900	12.4	87.6	59.2	40.8
City of Yucaipa	19,539	7.7	92.3	72.4	27.6
City of Redlands	26,178	8.6	91.4	57.5	42.5
Census Tract 85.0[a]	3,068	7.7	92.3	91.3	8.7
Census Tract 87.04	3,101	12.0	88.0	79.7	20.3
Census Tract 87.05	1,696	7.7	92.3	47.2	52.8
County of Riverside	826,704	13.9	86.1	65.0	35.0
City of Calimesa	3,852	13.3	86.7	84.4	15.6
Census Tract 438.02	2,298	12.9	87.1	84.5	15.5
Census Tract 438.23	2,753	6.6	93.4	85.7	14.3

Source: U.S Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

Table 2.5-8 summarizes the housing types within the community impact study area. The majority of the housing within the affected census tracts is single-family units. Within Census Tract 87.04 is the Hillcrest Mobile Estates, adjacent to the Project limits, north of Calimesa Boulevard, and within the City of Yucaipa's Mobile Home Overlap District 2.

Table 2.5-8. Existing Occupied Housing Types

Geographic Area within the Community Impact Study Area	Total Occupied Housing Units	Single- Family Units (%)	Multi-Family Units (%)	Mobile Homes (%)
County of San Bernardino	623,642	74.8	19.9	5.4
City of Yucaipa	18,038	71.0	8.5	0.0
City of Redlands	23,939	69.2	28.0	2.8
Census Tract 85.0[a]	2,831	100.0	0.0	0.0
Census Tract 87.04	2,730	72.8	6.1	21.1
Census Tract 87.05	1,565	64.6	28.8	6.6
County of Riverside	711,724	75.3	16.4	8.3
City of Calimesa	3,339	63.6	2.2	34.2
Census Tract 438.02	2,001	79.5	3.0	17.4
Census Tract 438.23	2,571	96.8	1.0	2.2

Source: U.S Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

As shown in Table 2.5-9, a large percentage of the occupied units moved into the census tracts within the community impact study area in a 14-year period between 2000 and 2014. Between approximately 50 to 70 percent of residents within Census Tracts 85, 87.04, 87.05, and 438.02 have lived the community impact study area for more than 10 years. Within Census Tract 438.23, only 37 percent of residents have lived within the census tract for longer than 10 years.

Table 2.5-9. Existing Housing Tenure Characteristics

Geographic Area within the Community Impact Study Area	Year Householder Moved Into Unit					
	1979 and Earlier (%)	1980 to 1989 (%)	1990 to 1999 (%)	2000 to 2009 (%)	2010 to 2014 (%)	2015 or Later (%)
County of San Bernardino	4.6	6.8	13.3	28.7	36.3	10.3
City of Yucaipa	4.3	6.5	13.4	31.9	36.4	7.6
City of Redlands	8.1	8.2	13.0	25.4	36.5	8.9
Census Tract 85.0[a]	16.6	9.4	19.9	25.8	26.0	2.4
Census Tract 87.04	5.9	6.4	12.9	30.0	39.2	5.6
Census Tract 87.05	4.7	8.1	10.2	25.2	44.0	7.7
County of Riverside	2.8	4.9	11.8	32.8	37.2	10.5
City of Calimesa	5.2	4.9	14.3	34.6	30.2	10.8
Census Tract 438.02	5.5	5.3	14.6	30.8	35.7	8.0
Census Tract 438.23	1.2	0.8	2.5	32.4	46.0	17.2

Source: U.S Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

As shown in Table 2.5-10, Census Tracts 85, 87.04, and 87.05 are almost evenly split between occupied housing units with one- or two-person households verses three- or four-person households, which is consistent with their associated city and county comparisons, City of Yucaipa, City of Redlands, and County of San Bernardino. However, for Census Tract 438.02, approximately 67 percent of the housing is one- or two-person households, which is consistent with the City's breakdown, and Census Tract 438.23 has the lowest percentage with one- or two-person households at 34 percent, which is not consistent with either the City of Calimesa or County of Riverside.

Table 2.5-10. Existing Occupied Housing Types

Geographic Area within the Community Impact Study Area	Household Size of Occupied Housing Units			
	One-Person Household (%)	Two-Person Household (%)	Three-Person Household (%)	Four- or More Person Household (%)
County of San Bernardino	19.1	26.7	17.6	36.6
City of Yucaipa	24.4	30.7	16.4	28.5
City of Redlands	24.5	31.7	17.5	26.3
Census Tract 85.0[a]	18.8	37.8	13.2	30.2
Census Tract 87.04	23.3	26.2	15.9	34.5
Census Tract 87.05	23.7	30.9	18.2	27.2
County of Riverside	21.3	29.2	15.3	34.2
City of Calimesa	33.7	35.2	10.0	21.1
Census Tract 438.02	33.0	34.1	8.0	24.9
Census Tract 438.23	6.6	27.8	9.4	56.2

Source: U.S Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

Age

As shown in Table 2.5-11, the median age within the affected census tracts range from 33.6 to 45.6. Census Tract 85 has the oldest median age (45.6 years of age), which is not consistent to the cities and county median of comparison that ranges from 32.9 to 37.3 years of age. Additionally, Census Tract 438.23 has the lowest median age (33.6 years of age), which is not consistent to the city and county median of comparison that ranges from 41.5 to 49.4 years of age. The remaining three census tracts are relatively consistent with their respective city and county of comparison.

Table 2.5-11. Age Distribution Characteristics

Geographic Area within the Community Impact Study Area	Median Age	19 and under (%)	20 to 64 (%)	65 and Over (%)
County of San Bernardino	32.9	30.0	59.4	10.6
City of Yucaipa	37.3	27.3	58.0	14.7
City of Redlands	35	27.1	58.3	14.5
Census Tract 85.0[a]	45.6	26.6	52.9	20.5
Census Tract 87.04	34.8	29.1	58.1	12.7
Census Tract 87.05	34.8	29.2	57.6	13.2
County of Riverside	35	29.0	57.5	13.5
City of Calimesa	49.4	21.1	51.0	28.0
Census Tract 438.02	41.5	24.0	57.9	18.0
Census Tract 438.23	33.6	35.7	56.9	7.3

Source: U.S Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

Ethnicity

As shown Table 2.5-12, the census tracts within the community impact study area are either dominated by two groups: White and Hispanic or Latino. Within the census tracts, the other ethnic groups do not exceed 10 percent. Therefore, it is observed that within the census tracts, there is a high level of ethnic homogeneity because there are not multiple large percentages of other racial or ethnic groups.

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Table 2.5-12. Existing Regional and Local Race/Ethnicity Characteristics

Geographic Area within the Community Impact Study Area	Total Population	Hispanic or Latino (of any race) (%)	White (%)	Black or African American (%)	American Indian or Alaskan Native (%)	Asian (%)	Native Hawaii/Pacific Islander (%)	Other Race (%)	Two or More Races (%)	Total Minority Population (%)
County of San Bernardino	2,121,220	52.3	29.8	8.0	0.3	6.7	0.3	0.2	2.4	70.2
City of Yucaipa	53,151	34.1	60.0	1.1	0.1	2.6	0.2	0.0	1.9	40.0
City of Redlands	70,765	32.2	49.3	7.1	0.3	7.6	0.4	0.2	3.0	50.7
Census Tract 85.0[a]	8,004	11.1	74.3	1.1	0.0	7.8	0.0	1.2	4.5	25.7
Census Tract 87.04	8,490	34.4	60.2	0.2	0.2	4.6	0.0	0.0	0.4	39.8
Census Tract 87.05	4,945	38.4	56.7	1.1	0.0	1.9	0.2	0.0	1.8	43.3
County of Riverside	2,355,002	48.0	36.6	6.0	0.4	6.1	0.3	0.2	2.5	63.4

Table 2.5-12. Existing Regional and Local Race/Ethnicity Characteristics

Geographic Area within the Community Impact Study Area	Total Population	Hispanic or Latino (of any race) (%)	White (%)	Black or African American (%)	American Indian or Alaskan Native (%)	Asian (%)	Native Hawaii/Pacific Islander (%)	Other Race (%)	Two or More Races (%)	Total Minority Population (%)
City of Calimesa	8,517	24.9	69.7	1.2	0.5	1.9	0.0	0.0	1.9	30.3
Census Tract 438.02	5,380	29.8	63.8	0.9	0.8	1.6	0.0	0.0	3.0	36.2
Census Tract 438.23	9,819	39.9	39.3	6.5	0.9	10.6	0.0	0.0	0.0	57.9

Source: U.S Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

As shown in Table 2.5-7 through Table 2.5-12, existing conditions within the affected census tracts indicated that the majority of the population own their own homes, have lived within the community impact study area census tracts for longer than 10 years, and have a high level of ethnic homogeneity. In general, there is an even split of households containing more than two people. It is assumed that there is a high level of community cohesion within these census tracts. However, when looking at the 0.5-mile community impact study area and what uses are contained within the community impact study area, the majority of housing, schools, parks, emergency services, and healthcare facilities are located outside of the community impact study area, where community character is observed to be strong.

Therefore, the existing strength of community character and level of cohesion is not considered to be as high as it would be in the more densely populated areas that include the majority of parks, schools, community centers, emergency services, and healthcare facilities.

2.5.3 Environmental Consequences

2.5.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not involve construction activities associated with Alternative 2 (Build Alternative); therefore, no substantial adverse effects on the community character and cohesion would occur, and no disruption to community cohesion or character would occur.

Alternative 2 (Build Alternative)

As stated above, when considering the land uses and community facilities within the community impact study area, the level of existing community cohesion is not considered high. There are pocketed areas within the community impact study area with residential uses, including the Hillcrest Mobile Estate, as well as areas that include important industrial and manufacturing uses that are vital to the City of Yucaipa's economy. However, none of these residences or businesses would be impacted by the Project. The TCEs identified for staging areas would be located on plots within ROW or on undeveloped property that would be returned to original condition once construction is complete. Construction activities would not create a barrier that divides the neighborhood or limits access within the community; impacts, reduces, removes, or relocates special groups; reduces social interaction; or removes or relocates existing community serving facilities.

A majority of Project construction would occur within the existing ROW. Construction of the Project would include closing the median gap along the bridge overcrossings, which would require the

placement of supportive structures, placement of new concrete barriers within the median, and restriping of EB I-10 to convert the existing median into the new Lane No. 1 MFL and the existing Lane No. 3 MFL into the newly designated TCL.

As discussed in Section 2.1, Existing and Future Land Use, during construction, the Project under Alternative 2 (Build Alternative) may result in temporary indirect effects related to increases in noise, emissions from equipment, and disruptions to local traffic and circulation adjacent to the Project. However, no temporary closures or use of these recreational facilities identified in Table 2.5-4, Table 2.5-5, and Table 2.5-6 would occur; therefore, the Project will not adversely affect these resources, the public's ability to use these recreational resources, or the contributing benefits to community character or cohesion during construction.

In order to minimize these temporary construction related effects, the following Measures will be implemented during construction activities. A TMP, as recommended by Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities), would be implemented during construction to reduce any temporary effects on circulation. The TMP would involve public notification of the upcoming construction work and traffic management during construction activities.

Temporary construction air quality effects may occur during construction, which would be reduced by Measures AQ-1 through AQ-3 (Section 2.16, Air Quality) and GHG-1 and GHG-2 (Chapter 3, CEQA Checklist).

Temporary construction noise effects may also occur during construction, which would be reduced by Measures N-1 through N-3 (Section 2.17, Noise). These measures would reduce noise effects from construction activities by maintaining vehicles and equipment, utilizing sound-controlling devices, and turning off idling equipment.

With implementation of the identified measures above, no substantially adverse temporary effects on community character and cohesion would occur during Project construction.

2.5.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not involve construction activities associated with Alternative 2 (Build Alternative); therefore, no permanent effects on the community and adjacent facilities would occur, and no disruption to community character and cohesion would occur.

Alternative 2 (Build Alternative)

As stated above, when considering the land uses and community facilities within the community impact study area, the level of community cohesion is not considered high. The Project under

Alternative 2 (Build Alternative) would not require any partial or full acquisition of property, and no realignment or construction of new local roadways would occur. The Project purpose is to designate a 3-mile TCL on EB I-10; therefore, Project implementation would not create a barrier that divides the neighborhood or limits access within the community, impact special groups, reduce social interaction, or remove or relocate community serving facilities.

The Project would also not affect the availability of future development of important commercial, industrial, or business park areas adjacent to I-10, or affect the resources listed in Table 2.5-4, Table 2.5-5, and Table 2.5-6 once the Project is in operation. Therefore, no adverse permanent effects on community character and cohesion would occur with Project implementation.

2.5.4 Avoidance, Minimization, and/or Mitigation Measures

Refer to Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, for Measure TR-1, Section 2.16, Air Quality, for Measures AQ-1 through AQ-3, Chapter 3, CEQA Checklist, for GHG-1 and GHG-2, and Section 2.17, Noise, for Measures N-1 through N-3. No additional avoidance, minimization, and/or mitigation measures are recommended.

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2.6 Environmental Justice

2.6.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2017, this was $24,600 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this Project. Caltrans' commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix B of this document.

2.6.2 Affected Environment

According to the *Caltrans SER Guidance Volume 4: Community Impacts Assessment* (Caltrans 2011b), the Council of Environmental Quality definitions for NEPA analysis established the following definitions

- Minority Individuals are defined as members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black; or Hispanic.
- Minority populations should be identified where either: a) the minority population of the affected area exceeds 50 percent; or b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

In addition, as identified by USDOT and FHWA Departmental Order 5610.2(a) (USDOT 1997), a "low-income household" is defined as "a person whose household income is at or below the U.S. DHHS Poverty Guidelines."

The environmental justice (EJ) analysis was conducted using census tract-level information from the 2013-2017 ACS 5-year Estimates (U.S. Census Bureau 2017). Potential EJ impacts are detected by locating minority populations and low-income populations in and near the Project area, calculating their percentage in the area relative to a reference population, and determining whether there would

be adverse effects. As shown in Table 2.6-1, the EJ area analyzed included all census tracts having any part that lie within the community impact study area.

Based on the definitions above, the following analysis defines EJ areas as census tract populations that meet either of the following criteria:

- A minority population of the affected area exceeds 50 percent; or
- When the median household income for an affected community or census tract is below the 2017 U.S. DHHS Poverty Guideline income of $24,600 (U.S. DHHS 2017).

Table 2.6-1 also identifies which census tracts within the community impact study area contain EJ populations.

Table 2.6-1. Environmental Justice Minority and Low-Income Populations in Community Impact Study Area

Geographic Area within Community Impact Study Area	Minority Populations			Low-Income Populations		
	Percent Non-White /Minority (%)	Percent Minority in Affected Community > 50%	Minority EJ Population	Median Household Income ($)	Median Household Income Below U.S. DHHS Poverty Income of $24,600?	Low-Income EJ Population?
Affected Community within County of San Bernardino						
Census Tract 85.0[a]	25.7	No	No	123,806	No	No
Census Tract 87.04	39.8	No	No	60,049	No	No
Census Tract 87.05	43.3	No	No	49,826	No	No
Affected Community within County of Riverside						
Census Tract 438.02	36.2	No	No	62,036	No	No
Census Tract 438.23	57.9	Yes	Yes	112,117	No	No

Source: U.S Census Bureau 2017

Notes:

[a] Census Tract 85 overlaps with the Cities of Yucaipa and Redlands.

COC=community of comparison; DHHS=Department of Health and Human Services; EJ=environmental justice; U.S.=United States

Non-White/Minority Environmental Justice Population

In Table 2.6-1, the affected census tracts would need to exceed a minority population of 50 percent to determine whether or not there was an EJ minority population. Census Tract 438.23 within the City of Calimesa was identified as having EJ minority populations greater than 50 percent.

Low-Income Environmental Justice Population

In Table 2.6-1, using the 2017 U.S. DHHS Poverty Guideline income of $24,600 (U.S. DHHS 2017) for a family of four as a threshold, no census tracts were identified as a low-income EJ population. However, as shown in Table 2.5-3, there is a segment of the population within all geographic areas within the community impact study area that is below the poverty level.

2.6.3 Environmental Consequences

2.6.3.1 Temporary Impacts

Alternative 1 (No–Build Alternative)

Alternative 1 (No-Build Alternative) would not involve construction activities associated with Alternative 2 (Build Alternative); therefore, no temporary effects on the EJ populations would occur.

Alternative 2 (Build Alternative)

Table 2.6-1 identifies which census tracts contain minority populations that meet the EJ criteria of minority or low-income. Census Tracts 438.02 and 438.23 within the City of Calimesa were identified as having EJ minority populations greater than 50 percent. The remaining census tracts, Census Tracts 85, 87.04, and 87.05 have not been identified as having EJ populations.

The staging areas are located on plots within Caltrans ROW along Outer Highway 10 South, north of Live Oak Canyon Road. These areas would be returned to original condition once construction is complete. However, a majority of Project construction would occur within the existing ROW. Construction of the Project would include closing the median gap along the bridge overcrossings, which would require the placement of supportive structures, placement of new concrete barriers within the median, and restriping of EB I-10 to convert the existing median into the new Lane No. 1 MFL and the existing Lane No. 3 MFL into the newly designated TCL.

During construction, temporary disruptions to traffic may occur. However, a TMP as recommended by Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities), would be implemented during construction to reduce any temporary disruptions to circulation. The TMP would involve public notification of the upcoming construction work and traffic management during construction activities.

Temporary construction air quality impacts may occur during construction but would be reduced by Measure AQ-1 through AQ-3 (Section 2.16, Air Quality) and GHG-1 and GHG-2 (Chapter 3, CEQA Checklist).

Temporary construction noise impacts may also occur during construction, which would be reduced by Measures N-1 through N-3 (Section 2.17, Noise). These measures would reduce noise impacts from construction activities by ensuring certain procedures are implemented, such as maintaining vehicles and equipment, using sound-controlling devices, and turning off idling equipment.

With implementation of the above identified measures, no substantially adverse temporary effects on EJ populations are anticipated to occur during construction of Alternative 2 (Build Alternative).

2.6.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not involve construction activities associated with Alternative 2 (Build Alternative); therefore, no permanent effects on EJ populations would occur.

Alternative 2 (Build Alternative)

The majority of Project improvements would be implemented with the City of Yucaipa and within existing ROW. The Project limits extend into the City of Calimesa by approximately 0.17 mile (893 feet), which is where an EJ minority population greater than 50 percent has been identified within Census Tract 438.23.

Furthermore, Project improvements would only occur within the existing Caltrans ROW in City of Calimesa. The extension of the Project limits into the City of Calimesa is to ensure that the Project improvements tie into existing infrastructure at the southern end. The Project purpose is to designate a 3-mile TCL on EB I-10 and would not disrupt the identified EJ population. Therefore, no adverse permanent effects on EJ populations are anticipated to occur with the implementation of Alternative 2 (Build Alternative).

2.6.4 Avoidance, Minimization, and/or Mitigation Measures

Refer to Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, for Measure TR-1, Section 2.16, Air Quality, for Measures AQ-1 through AQ-3, Chapter 3, CEQA Checklist, for GHG-1 and GHG-2, and Section 2.17, Noise, for Measures N-1 through N-3. No additional avoidance, minimization, and/or mitigation measures are recommended.

Based on the above discussion and analysis, the Project alternative(s) will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required.

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2.7 Utilities and Emergency Services

2.7.1 Affected Environment

This section analyzes the potential effects of the Project on utilities and emergency services based on information from the *Draft Project Report* (Caltrans 2019a), *City of Yucaipa General Plan* (City of Yucaipa 2016), and *City of Calimesa General Plan* (City of Calimesa 2014).

2.7.1.1 Utilities

According to the *Draft Project Report* (Caltrans 2019b), the following existing overhead and underground public utilities are located within and adjacent to the Project limits:

- Electric: Southern California Edison (SCE)
- Gas: Southern California Gas Company
- Telecommunication lines: AT&T, Frontier Communications, Time Warner Cable, and Verizon
- Sewer: Yucaipa Valley Water District
- Water: Western Heights Water Company and Yucaipa Valley Water District

These utilities are generally located along local streets adjacent to the I-10 mainline with a few locations that traverse the freeway underground or along the bridge overcrossings. According to the *City of Yucaipa General Plan* (City of Yucaipa n.d.b), Southern California Gas Company has high-pressure natural gas distribution lines along I-10, as well as northward along Sand Canyon Road and 5th Street and eastward along Avenue E and Avenue H. In addition, electrical transmission towers are located adjacent to the Project limits along Calimesa Boulevard and WB I-10.

2.7.1.2 Fire Protection

In the City of Yucaipa, fire protection services for the area within the Project limits are provided through an agreement between the Yucaipa Fire Department and California Department of Forestry and Fire Protection (CAL FIRE). CAL FIRE provides fire and emergency response and develops and implements pre-fire management solutions. According to the City of Yucaipa General Plan Fire Safety Overlay Map (City of Yucaipa 2016), the portion of the Project limits within Fire Safety Review Area 1 is a 0.75-mile stretch south of the 16th Street overcrossing. The remaining portions of the Project limit are within Fire Safety Review Area 2 (City of Yucaipa 2016). Fire Safety Review Area 1 is considered very high fire severity zones, and Fire Safety Review Area 2 is considered areas of lands vulnerable to fire due to proximity to Fire Safety Review Area 1 areas.

Fire protection services for the City of Calimesa are provided by the Riverside County Fire Department. The portion of the Project limits within the City of Calimesa is not within a fire hazard severity zone (City of Calimesa 2014).

The closest fire stations to the Project limits are Fire Station #3 (906 Park Avenue, Yucaipa, CA 92399), located approximately 0.78 mile northeast of the Project limits, and Fire Station #21 (34259 Wildwood Canyon Road, City of Calimesa), located 0.50 mile from the Project's southern terminus (Section 2.5, Community Character and Cohesion, Figure 2.5-3).

2.7.1.3 Law Enforcement

The San Bernardino County Sheriff's Department is responsible for police patrol and protection services in the area within the Project limits. There are no police stations within the Project limits or within 0.50 mile of the Project limits. The area within the Project limits is currently serviced by the Yucaipa Police Department, of which county area deputies are assigned to. There are no California Highway Patrol (CHP) offices within the Project limits. The closest CHP office is located at 195 North Highland Springs Avenue, Beaumont, CA 92223, approximately 8.6 miles southeast of the Project limits.

2.7.1.4 Medical Facilities

There are no major medical facilities within the Project limits or within 0.50 mile of the Project limits. The closest major hospital to the Project limits is the City of Redlands Community Hospital, approximately 5.7 miles west of the Project limits. The nearest health facility is Yucaipa Urgent Care, which is approximately 1.3 mile north of the Project limits.

2.7.2 Environmental Consequences

2.7.2.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), the Project would not be implemented and would not result in construction activities. As such, no temporary adverse effects on utilities and emergency services would occur.

Alternative 2 (Build Alternative)

Utilities

Under Alternative 2 (Build Alternative), all Project work would occur within Caltrans ROW, with the exception of small TCEs two construction staging areas. These areas would be temporarily affected, and utility relocations or interruptions to existing utility services are not anticipated.

However, if unforeseen relocations are determined to be necessary during the final design phase or PS&E phase, a utility relocation plan will be implemented to ensure that disruptions to businesses and residents would be avoided or limited to the extent practicable (Measure UT-1). In addition, prior to any ground-disturbance activities, Measure UT-2 will be implemented to ensure the location of all underground utilities is identified. With the implementation of Measures UT-1 and UT-2, no substantial temporary adverse effects on utilities would occur.

Law Enforcement, Fire, and Emergency Medical Services

Although the Project limits within the City of Yucaipa are located within a fire hazard area, under Alternative 2 (Build Alternative), the Project does not propose to construct any residential or non-residential buildings. In addition, Project construction would entail extending the existing TCL within Caltrans' ROW. Therefore, under Alternative 2 (Build Alternative), the Project would not expose people or buildings to any new fire hazard areas. During construction activities, Measure UT-3 will be implemented to protect the public and the environment from the potential risk of fires and worker health and safety. Measure UT-3 includes creating defensible spaces around active construction sites.

Alternative 2 (Build Alternative) would not result in adverse effects on emergency service providers or facilities; however, it may temporarily impact response times from service providers as a result of traffic

delays and lane closures during construction activities. A TMP, Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities), will be prepared for the Project to minimize potential traffic delays during construction activities.

The TMP will be prepared during final design to be implemented during construction. The TMP will include emergency service routes that serve hospitals, fire/police stations, emergency shelters, emergency command centers, and other facilities that provide essential services in times of emergencies within the Project area. Preparation and implementation of the TMP will include coordination with local jurisdictions and emergency service providers (e.g., CHP, local police, fire, paramedics) to ensure detour routes are appropriate and that access to residences and businesses are maintained at all times. Therefore, with the implementation of the Project's TMP, as provided by Measure TR-1, temporary adverse effects on emergency services and their response times would not occur.

2.7.2.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), the Project would not be implemented; therefore, there would be no permanent effects on utilities or emergency services.

Alternative 2 (Build Alternative)

Utilities

Construction of Alternative 2 (Build Alternative) would include improvements to on-site drainage systems, which may include drain inlet extensions along I-10 to accommodate the widening of EB I-10 (Section 2.12, Water Quality and Stormwater Runoff). Implementation of these on-site Project improvements within the roadbed would not change the existing drainage patterns and would not permanently interrupt or alter the demand on existing service utilities. As mentioned previously, although no utility relocations are anticipated under the Alternative 2 (Build Alternative), if unforeseen relocations are determined to be necessary during final design, a utility relocation plan, per Measure UT-1, will be implemented to ensure that disruptions to businesses and residents would be avoided or limited to the extent practicable. With the implementation of Measure UT-1, no substantial permanent adverse effects on utilities would occur.

Law Enforcement, Fire, and Emergency Medical Services

There are no permanent effects that would occur on law enforcement, fire, or emergency medical services. During the operational phase, Alternative 2 (Build Alternative) would improve the existing operational characteristics for trucks and other slow-moving vehicles and would improve safety by reducing the frequency of truck-related accidents along EB I-10 within the Project limits. Improvements to traffic operation and safety on EB I-10 would help improve access for emergency services and response times.

2.7.3 Avoidance, Minimization, and/or Mitigation Measures

In addition to Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities), the following avoidance and minimization measures will be implemented under Alternative 2 (Build Alternative) to minimize impacts on utilities and emergency services during construction.

UT-1 During final design, if utility relocation is determined to be necessary, the Project Engineer will endeavor to relocate utilities within the Caltrans ROW or other existing public ROWs

and/or easements. If relocation outside of existing or the additional public ROWs and/or easements required for the Project is necessary, the Project Engineer will focus on relocating those facilities to minimize environmental impacts as a result of Project construction and ongoing maintenance and repair activities. In addition, a utility relocation plan will be prepared in consultation with affected utility providers/owners for the utility facilities that will need to be relocated, removed, or protected in-place.

UT-2 Prior to grading activities, SBCTA's Resident Engineer will require the design/build contractor to notify Underground Service Alert (USA) at least 2 days prior to excavation by calling 811 to require that all utility owners within the Project disturbance limits identify the locations of underground transmission lines and other utility facilities.

UT-3 To minimize risk of fires during construction activities, Caltrans and SBCTA will require implementation of the following:

a. Coordinate with California Department of Forestry and Fire Protection (CAL FIRE) and local fire departments to identify and maintain defensible spaces around active construction areas
b. Coordinate with CAL FIRE and local fire departments to identify and maintain firefighting equipment (e.g., extinguishers, shovels, water tankers) in active construction areas
c. Post emergency services phone numbers (i.e., fire, emergency medical, police) in visible locations in all active construction areas

2.8 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.8.1 Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

2.8.2 Affected Environment

This section was prepared using the *Traffic Operations Analysis Report* (TOAR) (Caltrans 2018a) prepared for the Project. The TOAR analyzed Project impacts on traffic operation under both Opening Year (2025) and Design Year (2045) conditions. The traffic analysis study area includes the Project limits, which extends from EB I-10 between Yucaipa Boulevard and County Line Road (PM 36.4 to PM R39.2 from PM 0.0 to 0.2). Areas east and west of the Project were also included to ensure both downstream and upstream effects of the Project were reflected in the TOAR.

2.8.2.1 Methodology

The TOAR used the San Bernardino Traffic Analysis Model (SBTAM), which is consistent with the SCAG 2012 RTP, to develop the traffic forecasting model. The SBTAM model was updated to reflect changes made to projects listed in SCAG's 2016 financially constrained RTP and Amendment 1, as well as any available Project details. The Project completion date identified in the 2016 RTP/Amendment 1 was also used to determine if the Project was included as a future roadway improvement when developing the Opening Year (2025) and Design Year (2045) traffic forecasts. The 2016 RTP projects included in the future year roadway networks are as follows:

- San Bernardino County Line to the I-10/SR-60 Junction TCL (RTP ID 3TK04MA12): The addition of an EB TCL (Completion Year: 2025)
- I-10/Wildwood Canyon Road Interchange (RTP ID 4M04033): The addition of the interchange at I-10 and the future Wildwood Canyon Road (Completion Year: 2035)
- RTP ID 4122003: The addition of the future TCL (with Project model only)

Traffic forecasts are consistent with the methodologies in the National Cooperative Highway Research Program Report 765, Analytical Travel Forecasting Approaches for Project Level Planning and Design (Transportation Research Board 2014).

Growth based on the opening year model runs was used to determine the traffic volumes expected in Opening Year (2025) scenario. As such, the Opening Year (2025) scenario included the TCL from the San Bernardino County line to the I-10/State Route 60 (SR-60) junction.

The future year models were used to develop traffic volumes for the Design Year (2045) scenarios. The data collected reflects traffic volumes in Existing Year (2017) conditions; therefore, the Design Year (2045) forecast reflects the 28 years of growth that was applied to Existing Year (2017) traffic volumes. As such, the Design Year (2045) model assumes SCAG's 2016 financially constrained RTP projects, including the continuation of the TCL from Alternative 2 (Build Alternative) eastern limit to the SR-60 junction in Riverside County and the I-10/Wildwood Canyon Road interchange. Due to the increase in highway capacity assumed under the Design Year (2045) scenario, higher traffic volumes are anticipated under Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative). The TOAR included the following scenarios:

- Existing Year (2017) Conditions
- Opening Year (2025)
- Design Year (2045)

Roadway capacity is generally determined by the number of vehicles that can reasonably pass over a given section of roadway in a given period of time. The Highway Capacity Manual (HCM), prepared by the Transportation Research Board, identifies travel speed, freedom to maneuver, and proximity to other vehicles as important factors in determining LOS on a roadway. The ability of a highway to accommodate traffic is typically measured in terms of LOS. As shown on Figure 2.8-1**,** traffic flow is classified by LOS, ranging from LOS A (free traffic flow with low volumes and high speeds, resulting in low densities) to LOS F (traffic volumes that exceed capacity and result in forced flow operations at low speeds, resulting in high densities)

The *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2002) states, “Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency may consult with Caltrans to determine the appropriate target LOS.” The TOAR prepared for the Project assumed that a LOS D would be the appropriate target LOS for assessing I-10 mainline segments and on- and off- ramps.

Figure 2.8-1. Level of Service for Freeways

LEVELS OF SERVICE
for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

2.8.2.2 Study Area

The study corridor covers EB I-10 between Yucaipa Boulevard and County Line Road (PM 36.4 to PM 39.2 from PM 0.0 to 0.2). The study locations consist of the I-10 mainline segments and ramp junctions in the study area. The following segments were considered in the analysis:

- Yucaipa Boulevard on-ramp
- Yucaipa Boulevard to down grade start
- Down grade start to Live Oak Canyon Road
- Live Oak Canyon Road off-ramp
- Live Oak Canyon Road off-ramp to on-ramp
- Live Oak Canyon Road on-ramp
- Live Oak Canyon Road to rest area
- Rest area off-ramp
- Rest area off-ramp to on-ramp
- Rest area on-ramp
- Rest area to County Line Road
- County Line Road off-ramp
- County Line Road to off-ramp to up grade
- Up grade end to County Line Road On-ramp
- County Line Road on-ramp
- Off-ramp to Wildwood Canyon Road (Design Year 2045 only)
- On-ramp from Wildwood Canyon Road (Design Year 2045 only)

The I-10/ Wildwood Canyon Road interchange is proposed to be completed by 2035. Therefore, the traffic forecasts were developed for the I-10/ Wildwood Canyon Road interchange (e.g., the off- and on- ramps for the Wildwood Canyon Road interchange) for the Design Year (2045) scenario only.

2.8.2.3 Existing Year (2017) Traffic Conditions

EB and WB freeway mainline volumes were collected during the AM peak period (7 a.m. to 9 a.m.) and the PM peak period (4 p.m. to 6 p.m.) from the 16th Street overcrossing in November 2017. Traffic volume data and classification information were collected by lane for the mainline. Twenty-four-hour tube counts with classification information were also collected on all study ramps. Traffic data was collected as ADT/peak hour by type and axle for the mainline/ramps. Additional detail for existing peak hour traffic volumes for the freeway mainline and ramps in the study area is provided in the TOAR.

Freeway Operations

Table 2.8-1 shows the Existing Year (2017) AM and PM peak hour density and LOS for the study area freeway mainline segments and ramp junctions on the EB I-10.

Table 2.8-1. Existing Year (2017) Summary of Freeway Mainline and Ramp Junctions Level of Service

I-10 EB Freeway Mainline Segment/ Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
Yucaipa Boulevard on-ramp	9	A	21	C
Yucaipa Boulevard to down grade start	13	B	22	C
Down grade start to Live Oak Canyon Road	13	B	22	C
Live Oak Canyon Road off-ramp	13	B	23	C
Live Oak Canyon Road off-ramp to on-ramp	14	B	23	C
Live Oak Canyon Road on-ramp	15	B	30	D
Live Oak Canyon Road to rest area	17	B	28	D
Rest area off-ramp	15	B	28	C
Rest area off-ramp to on-ramp	18	B	29	D
Rest area on-ramp	15	B	31	D
Rest area to County Line Road	18	B	30	D
County Line Road off-ramp	15	B	30	D
County Line Road off-ramp to up grade end	18	B	25	C
Up grade end to County Line Road on-ramp	17	B	24	C

Table 2.8-1. Existing Year (2017) Summary of Freeway Mainline and Ramp Junctions Level of Service

I-10 EB Freeway Mainline Segment/ Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
County Line Road on-ramp	14	B	24	C

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; LOS=level of service

As shown in Table 2.8-1, all study area freeway mainline segments and ramp junctions operate at an LOS B or better during the AM peak hour. Similarly, all study area freeway mainline segments and ramp junctions operate at a LOS D or better during the PM peak hour.

System-wide Performance

The system-wide performance metrics are an effective measurement in evaluating transportation system performance. The system-wide performance measure used for this Project includes travel time, travel speeds, number of vehicles served by the study network, and vehicle-hours of delay (VHD). Table 2.8-2 shows the Existing Year (2017) AM and PM peak hour travel time, speeds, volume served, average delay, and total delay for the I-10 corridor.

Table 2.8-2. Existing Year (2017) Network Condition Statistics

Performance Measure		AM Peak Hour	PM Peak Hour
Travel time – EB I-10: Yucaipa Boulevard to County Line Road	Cars	3.54 minutes	3.87 minutes
	Trucks	4.69 minutes	4.95 minutes
Speed – EB I-10: Yucaipa Boulevard to County Line Road	Cars	62.3 miles per hour	57.0 miles per hour
	Trucks	47.0 miles per hour	44.5 miles per hour
Volume served		3,625 vehicles	5,997 vehicles
Average delay per vehicle		12.8 seconds	27.7 seconds

Table 2.8-2. Existing Year (2017) Network Condition Statistics

Performance Measure	AM Peak Hour	PM Peak Hour
Total delay (VHD)	12.9 hours	46.2 hours

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; VHD=vehicle-hours of delay

As shown in Table 2.8-2, during the AM peak hour, cars currently travel at free-flow speeds through the EB I-10 corridor with an average speed of 62 miles per hour in about 4 minutes, while trucks currently travel at an average speed of 47 miles per hour in about 5 minutes. During the PM peak hour, cars currently travel through the EB I-10 corridor at a reduced speed of 57 miles per hour in about 4 minutes and trucks travel at a reduced speed of 44 miles per hour in approximately 5 minutes.

Other data presented in Table 2.8-2 for the Existing Year (2017) AM and PM peak hour show a higher level of congestion occurring in the PM peak hour. The increase in average delay per vehicle from approximately 13 seconds in the AM peak hour to approximately 28 seconds during the PM peak hour. The higher levels of congestion are also indicated by the total delay experienced during the PM peak hour, which is two and half times greater than the AM peak hour.

Collision Data

Table 2.8-3 shows a summary of collision rates on the EB I-10 mainline and on- and off- ramps within the Project limits and compares them with the statewide average collision rates on similar facilities.

Table 2.8-3. Eastbound Interstate 10 Collision Rate Summary

	Actual Collision Rates			Average Collision Rates		
Location	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
Mainline between 16th Street and County Line Road	0.000	0.28	0.81	0.004	0.29	0.89
Off-ramp to Live Oak Canyon Road	0.000	0.17	0.69	0.004	0.32	0.92
On-ramp from Live Oak Canyon Road	0.000	0.00	0.23	0.002	0.21	0.60

Table 2.8-3. Eastbound Interstate 10 Collision Rate Summary

Location	Actual Collision Rates			Average Collision Rates		
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
Off-ramp to Wildwood rest area	0.000	0.00	**1.83**	0.001	0.06	0.61
On-ramp from Wildwood rest area	0.000	0.00	**0.50**	0.000	0.02	0.23
Off-ramp to County Line Road	0.000	0.27	**0.94**	0.004	0.32	0.92
Mainline between County Line Road off-ramp and on-ramp	0.000	0.00	0.02	0.002	0.14	0.44
On-ramp from County Line Road	0.000	0.00	0.00	0.002	0.21	0.60

Source: Electric traffic collision data received from Caltrans District 8. January 8, 2020.

Notes:

The collision rate summary covers a 3-year period from December 1, 2016, through November 30, 2019.

For mainline sections, the collision rate is the number of collisions per million vehicle-miles.

For ramps, the collision rate is the number of collisions per million vehicles.

Bold and underline indicates an actual collision rate that is higher than the average collision rate.

As shown in Table 2.8-3, the collision rates at three of the eight analyzed locations are higher than the statewide average for similar facilities. Among the three locations, the on- and off-ramps to the Wildwood rest area have collision rates that are more than double the statewide average rates.

2.8.2.4 Pedestrian and Bicycle Facilities, and Public Transportation

There are no pedestrian, bicycle, or public transportation facilities within the Project limits, and no pedestrian, bicycle, or public transportation facilities would be affected by the Project. As a result, these facilities are not discussed further in this section.

2.8.3 Environmental Consequences

2.8.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) maintains the existing lane configurations of I-10 with no additional lanes or any other improvements that increase capacity and improve travel conditions

within the Project limits. Therefore, there would be no construction activities associated with Alternative 1 (No-Build Alternative), and no temporary substantial adverse effects would occur.

Alternative 2 (Build Alternative)

Construction activities; such as restriping lanes, replacing pavement, widening the Oak Glen Creek Bridge, and modifying drainage; would temporarily affect traffic operations on I-10. However, potential construction-related traffic and circulation impacts would be minimized through implementation of a comprehensive TMP. As identified in Measure TR-1, a Project TMP would be prepared in accordance with the Caltrans' Guidelines Deputy Directive (DD) 60 to minimize motorist delays when performing work activities on I-10. The TMP is designed to minimize traffic delays that may result from lane restrictions or closures during construction operations and move motorists through the work zones quickly and safely.

The TMP, which would be prepared during the design-build phase, would require minimization of construction-related effects on traffic by applying a variety of techniques, including public information, motorist information, incident management, construction strategies, demand management, and alternative route strategies.

With implementation of Measure TR-1, no substantial adverse effects on traffic and circulation are anticipated to occur.

2.8.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Opening Year (2025) Freeway Operations

Under Alternative 1 (No-Build Alternative), there would be no operational improvements along the 3-mile segment on the EB I-10 segment from San Bernardino County to Riverside County. Table 2.8-4 shows the Opening Year (2025) AM and PM peak hour density and LOS for the study area freeway mainline segments and ramp junctions on EB I-10 under Alternative 1 (No-Build Alternative).

Table 2.8-4. Opening Year (2025) Summary of Freeway Mainline and Ramp Junctions Level of Service (Alternative 1 – No-Build Alternative)

I-10 EB Freeway Mainline Segment/ Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
Yucaipa Boulevard on-ramp	10	B	22	C

Table 2.8-4. Opening Year (2025) Summary of Freeway Mainline and Ramp Junctions Level of Service (Alternative 1 – No-Build Alternative)

I-10 EB Freeway Mainline Segment/ Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
Yucaipa Boulevard to down grade start	13	B	23	C
Down grade start to Live Oak Canyon Road	13	B	23	C
Live Oak Canyon Road off-ramp	14	B	25	C
Live Oak Canyon Road off-ramp to on-ramp	14	B	24	C
Live Oak Canyon Road on-ramp	16	B	33	D
Live Oak Canyon Road to rest area	18	B	30	D
Rest area off-ramp	16	B	29	D
Rest area off-ramp to on-ramp	18	B	30	D
Rest area on-ramp	16	B	34	D
Rest area to County Line Road	19	B	32	C
County Line Road off-ramp	16	B	33	D
County Line Road off-ramp to up grade end	18	B	26	C
Up grade end to County Line Road on-ramp	17	B	25	C
County Line Road on-ramp	14	B	26	C

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; LOS=level of service

As shown in Table 2.8-4, all study area freeway mainline segments and ramp junctions are anticipated to operate at a LOS B or better during the AM peak hour. Similarly, all study area

freeway mainline segments and ramp junctions are anticipated to operate at a LOS D or better during the PM peak hour. No substantial adverse effects are anticipated to occur on traffic operations during the Opening Year (2025) scenario under Alternative 1 (No-Build Alternative). Although Alternative 1 (No-Build Alternative) would not result in unsatisfactory LOS during Opening Year (2025), it would not meet the Project purpose and need to improve traffic operations by reducing conflicts between automobiles and slow-moving trucks or reducing the frequency of collisions involving trucks along the I-10 corridor.

Opening Year (2025) System-wide Performance

Table 2.8-5 shows the Opening Year (2025) AM and PM peak hour travel time, speeds, volume served, average delay, and total delay for the I-10 corridor under Alternative 1 (No-Build Alternative).

Table 2.8-5. Opening Year (2025) Network Performance Measures – Alternative 1 (No-Build Alternative)

Performance Measure		AM Peak Hour	PM Peak Hour
Travel time – EB I-10: Yucaipa Boulevard to County Line Road	Cars	3:32 minutes	3:58 minutes
	Trucks	4:43 minutes	5:03 minutes
Speed – EB I-10: Yucaipa Boulevard to County Line Road	Cars	62.2 miles per hour	55.6 miles per hour
	Trucks	46.7 miles per hour	43.7 miles per hour
Volume served		3,965 vehicles	6,350 vehicles
Average delay per vehicle		12.6 seconds	32.1 seconds
Total delay (VHD)		14.3 hours	56.6 hours

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; VHD=vehicle-hours of delay

As shown in Table 2.8-5, in the Opening Year (2025) scenario during the AM peak hour, cars are anticipated to travel at free-flow speeds through the EB I-10 corridor with an average speed of 62 miles per hour in about 3 minutes. Similarly, trucks are anticipated to travel through the corridor at an average speed of 47 miles per hour in about 5 minutes. During the PM peak hour, cars are anticipated to travel through the EB-10 corridor at a reduced speed of 56 miles per hour in about 4 minutes, and trucks are anticipated to travel at a reduced speed of 44 miles per hour in

approximately 5 minutes. These performance measures under Alternative 1 (No-Build Alternative) in the Opening Year (2025) scenario are similar to Existing Year (2017) conditions.

Other data presented in Table 2.8-5 for the Opening Year (2025) AM and PM peak hour show a higher level of congestion occurring in the PM peak hour. The increase in average delay per vehicle goes from approximately 13 seconds in the AM peak hour to approximately 32 seconds during the PM peak hour. The higher levels of congestion are also indicated by the total delay experience during the PM peak hour, which is nearly three times greater than the AM peak hour.

No substantial adverse effects are anticipated to occur to network performance operations during the Opening Year (2025) scenario under Alternative 1 (No-Build Alternative). However, Alternative 1 (No-Build Alternative) would not meet the Project purpose and need to improve traffic operations by reducing conflicts between automobiles and slow-moving trucks or reducing the frequency of collisions involving trucks along the I-10 corridor.

Design Year (2045) Freeway Operations

Under Alternative 1 (No-Build Alternative), there would be no operational improvements along the 3-mile segment on the EB I-10 segment from San Bernardino County to Riverside County. Table 2.8-6 shows the Design Year (2045) AM and PM peak hour density and LOS for the study area freeway mainline segments and ramp junctions on the EB I-10 under Alternative 1 (No-Build Alternative).

Table 2.8-6. Design Year (2045) Summary of Freeway Mainline and Ramp Junctions Level of Service (Alternative 1 – No-Build Alternative)

I-10 EB Freeway Mainline Segment/ Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
Yucaipa Boulevard on-ramp	17	B	66	**F**
Yucaipa Boulevard to down grade start	21	C	72	**F**
Down grade start to Live Oak Canyon Road	20	C	71	**F**
Live Oak Canyon Road off-ramp	21	C	77	**F**
Live Oak Canyon Road off-ramp to on-ramp	21	C	76	**F**
Live Oak Canyon Road on-ramp	23	C	66	**F**

Table 2.8-6. Design Year (2045) Summary of Freeway Mainline and Ramp Junctions Level of Service (Alternative 1 – No-Build Alternative)

I-10 EB Freeway Mainline Segment/ Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
Live Oak Canyon Road to rest area	26	C	48	**F**
Rest area off-ramp	26	C	52	**F**
Wildwood Canyon Road Off-Ramp	28	D	51	**F**
Wildwood Canyon Road Off-Ramp to On-Ramp	25	C	40	**E**
Wildwood Canyon Road On-Ramp	24	C	53	**F**
Rest Area to County Line Road	19	B	30	D
County Line Road off-ramp to up grade end	25	C	33	D
Up grade end to County Line Road on-ramp	21	C	23	C
County Line Road on-ramp	18	B	22	C

Source: Caltrans 2018a

Notes:

Bold indicates a freeway mainline segment or ramp junction that is forecasted to operate at an unsatisfactory LOS.

EB=eastbound; I=Interstate; LOS=level of service

As shown in Table 2.8-6, under Alternative 1 (No-Build Alternative) during the AM peak hour, all study freeway mainline segments and ramp junctions are anticipated to operate at a LOS D or better. During the PM peak hour, 10 freeway mainline segments or ramp junctions would operate at a LOS F, and 1 ramp junction would operate at a LOS E. During the Design Year (2045) scenario, Alternative 1 (No-Build Alternative) would result in unsatisfactory LOS during the PM peak hour. In addition, Alternative 1 (No-Build Alternative) would not meet the Project purpose and need to improve traffic operations by reducing conflicts between automobiles and slow-moving trucks or reducing the frequency of collisions involving trucks along the I-10 corridor.

Design Year (2045) System-wide Performance

Table 2.8-7 shows the Design Year (2045) AM and PM peak hour travel time, speeds, volume served, average delay, and total delay for the I-10 corridor under Alternative 1 (No-Build Alternative).

Table 2.8-7. Design Year (2045) Network Performance Measures – Alternative 1 (No-Build Alternative)

Performance Measure		AM Peak Hour	PM Peak Hour
Travel time – EB I-10: Yucaipa Boulevard to County Line Road	Cars	3:43 minutes	6:08 minutes
	Trucks	4:56 minutes	8:17 minutes
Speed – EB I-10: Yucaipa Boulevard to County Line Road	Cars	59.3 miles per hour	35.9 miles per hour
	Trucks	44.6 miles per hour	26.6 miles per hour
Volume served		5,957 vehicles	7,411 vehicles
Average delay per vehicle		20.7 seconds	141.6 seconds
Total delay (VHD)		34.3 hours	291.6 hours

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; VHD=vehicle-hours of delay

As shown in Table 2.8-7, in the Design Year (2045) scenario during the AM peak hour, the EB I-10 speed is approximately 60 miles per hour for cars and 47 miles per hour for trucks. The travel time is about 4 minutes for cars and about 5 minutes for trucks. The average delay per vehicle is approximately 21 seconds and total VHD would be approximately 34 hours. During the PM peak hour, the average speed decreases to about 36 miles per hour for cars and 27 miles per hour for

trucks. The travel time increases to 6 minutes for cars and 8 minutes for trucks during the PM peak hour.

Other data presented in Table 2.8-7 for the Design Year (2045) AM and PM peak hour show a higher level of congestion occurring in the PM peak hour. The increase in average delay per vehicle goes from approximately 20 seconds in the AM peak hour to approximately 142 seconds during the PM peak hour. The higher levels of congestion are also indicated by the total delay experience during the PM peak hour, which is nearly eight times greater than the AM peak hour.

Based on information contained in Table 2.8-7, network performance operations during the Design Year (2045) scenario under Alternative 1 (No-Build Alternative) would not be optimal with increases in travel time and average delay for cars and trucks traveling EB on I-10. Alternative 1 (No-Build Alternative) would also not meet the Project purpose and need to improve traffic operations by reducing conflicts between automobiles and slow-moving trucks or reducing the frequency of collisions involving trucks along the I-10 corridor.

Alternative 2 (Build Alternative)

Opening Year (2025) Freeway Operations

Under Alternative 2 (Build Alternative), the construction of the proposed TCL and associated operational improvements along the 3-mile segment on the EB I-10 segment would occur. Table 2.8-8 shows a comparison of the Opening Year (2025) AM and PM peak hour density and LOS for the study area freeway mainline segments and ramp junctions on the EB I-10 for Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative).

Table 2.8-8. Opening Year (2025) Comparison Summary of Freeway Mainline and Ramp Junctions Level of Service

I-10 EB Freeway Mainline Segment/ Ramp Junction	Alternative 1 (No-Build Alternative)				Alternative 2 (Build Alternative)				Adverse Effect?
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	
Yucaipa Boulevard on-ramp	10	B	22	C	13	B	27	C	No
Yucaipa Boulevard to down grade start	13	B	23	C	14	B	26	C	No
Down grade start to Live Oak Canyon Road	13	B	23	C	14	B	26	C	No
Live Oak Canyon Road off-ramp	14	B	25	C	11	B	22	C	No
Live Oak Canyon Road off-ramp to on-ramp	14	B	24	C	12	B	20	C	No
Live Oak Canyon Road on-ramp	16	B	33	D	10	B	20	B	No
Live Oak Canyon Road to rest area	18	B	30	D	13	B	23	C	No
Rest area off-ramp	16	B	29	D	11	B	21	C	No
Rest area off-ramp to on-ramp	18	B	30	D	13	B	23	C	No
Rest area on-ramp	16	B	34	D	11	B	22	C	No
Rest area to County Line Road	19	B	32	C	15	B	26	C	No
County Line Road off-ramp	16	B	33	D	10	B	22	C	No

Table 2.8-8. Opening Year (2025) Comparison Summary of Freeway Mainline and Ramp Junctions Level of Service

I-10 EB Freeway Mainline Segment/ Ramp Junction	Alternative 1 (No-Build Alternative)				Alternative 2 (Build Alternative)				Adverse Effect?
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	
County Line Road off-ramp to up grade end	18	B	26	C	17	B	30	D	No
Up grade end to County Line Road on-ramp	17	B	25	C	17	B	28	D	No
County Line Road on-ramp	14	B	26	C	15	B	30	D	No

Source: Caltrans 2018a

Notes:

EB-eastbound; I=Interstate; LOS=level of service

As shown in Table 2.8-8, under Alternative 2 (Build Alternative), all study area freeway mainline segments and ramp junctions are anticipated to operate at a LOS B or better during the AM peak hour. Similarly, all study area freeway mainline segments and ramp junctions are anticipated to operate at a LOS D or better during the PM peak hour.

Under the PM peak hour, Alternative 2 (Build Alternative) is anticipated to improve operations from LOS D to B at the Live Oak Canyon Road on-ramp. Similarly, Alternative 2 (Build Alternative) is anticipated to improve operations from LOS D to LOS C at the following five locations:

- Live Oak Canyon Road to rest area
- Rest area off-ramp
- Rest area off-ramp to on-ramp
- Rest area on-ramp
- County Line Road off-ramp

As identified in Table 2.8-8, three study area freeway mainline segments or ramp junctions are anticipated to operate at a LOS D during the PM peak hour. When compared with Alternative 1 (No-Build Alternative), these segments and ramp junctions would result in a lower LOS under Alternative 2 (Build Alternative). These segments and ramp junctions include:

- County Line Road off-ramp to up grade end
- Up grade end to County Line Road on-ramp
- County Line Road on-ramp

The above-mentioned segments and ramp junctions are outside of the Project limits and were included to ensure that downstream effects of the Project are reflected as part of the analysis (Caltrans 2018a). These three segments and ramp junctions would be addressed by a future TCL project initiated by the Riverside County Transportation Commission (RCTC).

Based on information contained in Table 2.8-8, Alternative 2 (Build Alternative) would not result in unsatisfactory LOS during Opening Year (2025). Therefore, Alternative 2 (Build Alternative) would not result in a substantial adverse effect on freeway operations during Opening Year (2025).

Opening Year (2025) System-wide Performance

Table 2.8-9 provides a comparison summary of Opening Year (2025) AM and PM peak hour travel time, speeds, volume served, average delay, and total delay for the I-10 corridor between Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative).

Table 2.8-9. Opening Year (2025) Network Performance Measures – Comparison Summary

Performance Measure		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Travel time – EB I-10: Yucaipa Boulevard to County Line Road	Cars	3:32 minutes	3:58 minutes	3:29 minutes	3:48 minutes
	Trucks	4:43 minutes	5:03 minutes	4:48 minutes	4:50 minutes
Speed – EB I-10: Yucaipa Boulevard to County Line Road	Cars	62.2 miles per hour	55.6 miles per hour	63.4 miles per hour	59.3 miles per hour
	Trucks	46.7 miles per hour	43.7 miles per hour	46.9 miles per hour	45.5 miles per hour
Volume served		3,965 vehicles	6,350 vehicles	4,005 vehicles	6,762 vehicles
Average delay per vehicle		12.6 seconds	32.1 seconds	11.5 seconds	24.3 seconds
Total delay (VHD)		14.3 hours	56.6 hours	12.8 hours	45.6 hours

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; VHD=vehicle-hours of delay

As shown in Table 2.8-9, Alternative 2 (Build Alternative) would improve network operations performance within the Project limits. Under Alternative 2 (Build Alternative), the speed for cars and trucks during the AM peak hour and PM peak hour would increase when compared with Alternative 1 (No-Build Alternative) conditions. Similarly, under Alternative 2 (Build Alternative), travel time for cars and trucks along the EB I-10 segment would improve, as it would take slightly less time for cars to travel through the corridor. The travel time for trucks during the PM peak hour would decrease by 13 seconds and would minimally increase by 5 seconds during the AM peak hour. The slight increase in the AM peak period is a result of more trucks than cars on EB I-10 as most vehicles would be on the WB I-10 to the more urban centers for work.

Other data presented in Table 2.8-9 for the Opening Year (2025) AM and PM peak hour show average delay per vehicle improving under Alternative 2 (Build Alternative) for both AM peak hour and PM peak hour. Congestion levels would be reduced under Alternative 2 (Build Alternative) when compared with Alternative 1 (No-Build Alternative). Based on information contained in Table 2.8-9,

no substantial adverse effects are anticipated to occur to network performance operations during the Opening Year (2025) scenario under Alternative 2 (Build Alternative).

Design Year (2045) Freeway Operations

Under Alternative 2 (Build Alternative), the construction of the proposed TCL and associated operational improvements along the 3-mile segment on the EB I-10 segment would occur. Table 2.8-10 shows a comparison of the Design Year (2045) AM and PM peak hour density and LOS for the study area freeway mainline segments and ramp junctions on the EB I-10 for Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative).

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Table 2.8-10. Design Year (2045) Comparison Summary of Freeway Mainline and Ramp Junctions Level of Service

I-10 EB Freeway Mainline Segment/ Ramp Junction	Alternative 1 (No-Build Alternative)				Alternative 2 (Build Alternative)				Adverse Effect?
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	
Yucaipa Boulevard on-ramp	17	B	66	**F**	20	C	32	D	No
Yucaipa Boulevard to down grade start	21	C	72	**F**	21	C	30	D	No
Down grade start to Live Oak Canyon Road	20	C	71	**F**	21	C	29	D	No
Live Oak Canyon Road off-ramp	21	C	77	**F**	17	B	23	C	No
Live Oak Canyon Road off-ramp to on-ramp	21	C	76	**F**	17	B	23	C	No
Live Oak Canyon Road on-ramp	23	C	66	**F**	15	B	25	C	No
Live Oak Canyon Road to rest area	26	C	48	**F**	19	B	27	C	No
Rest area off-ramp	26	C	52	**F**	17	B	30	D	No
Wildwood Canyon Road Off-Ramp	28	D	51	**F**	17	B	30	D	No
Wildwood Canyon Road Off-Ramp to On-Ramp	25	C	40	**E**	19	B	28	D	No
Wildwood Canyon Road On-Ramp	24	C	53	**F**	15	B	31	D	No
Rest Area to County Line Road	19	B	30	D	16	B	25	C	No

Table 2.8-10. Design Year (2045) Comparison Summary of Freeway Mainline and Ramp Junctions Level of Service

I-10 EB Freeway Mainline Segment/ Ramp Junction	Alternative 1 (No-Build Alternative)				Alternative 2 (Build Alternative)				Adverse Effect?
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	
County Line Road off-ramp to up grade end	25	C	33	D	19	B	28	C	No
Up grade end to County Line Road on-ramp	21	C	23	C	19	B	26	C	No
County Line Road on-ramp	18	B	22	C	14	B	25	C	No

Source: Caltrans 2018a

Notes:

Bold indicates a freeway mainline segment or ramp junction that is forecasted to operate at an unsatisfactory LOS.

EB-eastbound; I=Interstate; LOS=level of service

During the AM peak hour, all study area freeway mainline segments and ramp junctions would operate at a LOS C or better under Alternative 2 (Build Alternative). With implementation of Alternative 2 (Build Alternative), one segment (rest area off-ramp to on-ramp) is anticipated to improve operations from a LOS D to LOS B. Under the AM peak hour, Alternative 2 (Build Alternative) is anticipated to improve operations from LOS C to B at the following nine locations:

- Live Oak Canyon Road off-ramp
- Live Oak Canyon Road off-ramp to on-ramp
- Live Oak Canyon Road on-ramp
- Live Oak Canyon Road to rest area
- Rest area off-ramp
- Wildwood Canyon Road Off-Ramp to On-Ramp
- Wildwood Canyon Road On-Ramp
- County Line Road to off-ramp to up grade end
- Up grade end to County Line Road on-ramp

During the PM peak hour, all study area freeway mainline segments and ramp junctions would operate at a LOS D or better under Alternative 2 (Build Alternative). With implementation of Alternative 2 (Build Alternative), one ramp junction (rest area on-ramp) is anticipated to improve operations from a LOS E to LOS D. Under the PM peak hour, Alternative 2 (Build Alternative) is anticipated to improve operations from LOS F to D at the following six locations:

- Yucaipa Boulevard on-ramp
- Yucaipa Boulevard to down grade start
- Down grade start to Live Oak Canyon Road
- Rest area off-ramp
- Wildwood Canyon Road Off-Ramp
- Wildwood Canyon Road On-Ramp

Similarly, Alternative 2 (Build Alternative) is anticipated to improve operations from LOS F to LOS C at the following four other locations:

- Live Oak Canyon Road off-ramp
- Live Oak Canyon Road off-ramp to on-ramp
- Live Oak Canyon Road on-ramp
- Live Oak Canyon Road to rest area

Alternative 2 (Build Alternative) is also anticipated to improve operations from LOS D to LOS C at the following two locations during the PM peak hour:

- Rest Area to County Line Road
- County Line Road off-ramp to up grade end

When compared with Alternative 1 (No-Build Alternative), which would have 11 freeway mainline segments or ramp junctions operating at LOS E or F, Alternative 2 (Build Alternative) is anticipated to have no freeway mainline segments or ramp junctions operating at an unsatisfactory LOS.

The Project would improve freeway operations during the AM peak hour and PM peak hour under the Design Year (2045) scenario.

Based on information contained in Table 2.8-10, Alternative 2 (Build Alternative) would not result in unsatisfactory LOS during Design Year (2045). Therefore, Alternative 2 (Build Alternative) would not result in a substantial adverse effect on freeway operations during Design Year (2045).

Design Year (2045) System-wide Performance

Table 2.8-11 provides a comparison summary of Design Year (2045) AM and PM peak hour travel time, speeds, volume served, average delay, and total delay for the I-10 corridor between Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative).

Table 2.8-11. Design Year (2045) Network Performance Measures – Comparison Summary

Performance Measure		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Travel time – EB I-10: Yucaipa Boulevard to County Line Road	Cars	3:43 minutes	6:08 minutes	3:31 minutes	3:56 minutes
	Trucks	4:56 minutes	8:17 minutes	4:50 minutes	5:06 minutes
Speed – EB I-10: Yucaipa Boulevard to County Line Road	Cars	59.3 miles per hour	35.9 miles per hour	62.6 miles per hour	56.1 miles per hour
	Trucks	44.6 miles per hour	26.6 miles per hour	45.6 miles per hour	43.3 miles per hour
Volume served		5,957 vehicles	7,411 vehicles	5,842 vehicles	7,700 vehicles
Average delay per vehicle		20.7 seconds	141.6 seconds	14.7 seconds	37.1 seconds

Table 2.8-11. Design Year (2045) Network Performance Measures – Comparison Summary

Performance Measure	Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Total delay (VHD)	34.3 hours	291.6 hours	23.9 hours	79.3 hours

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; VHD=vehicle-hours of delay

Implementation of Alternative 2 (Build Alternative) is anticipated to improve network performance within the Project area. As shown in Table 2.8-11, under Alternative 2 (Build Alternative), car travel time through the I-10 corridor during the AM peak hour would be approximately 3 minutes at a speed of 63 miles per hour. During the PM peak hour, travel time for cars would be approximately 4 minutes with a speed of 56 miles per hour. Average delay per vehicle is anticipated to be 14.7 seconds during the AM peak hour and 37.1 seconds during the PM peak hour.

In comparison, Alternative 1 (No-Build Alternative) would have a car travel time of approximately 4 minutes at a speed of 60 miles per hour during AM peak hour and a truck travel time of approximately 6 minutes at a speed of 36 miles per hour. Average delay per vehicle under Alternative 1 (No-Build Alternative) is anticipated to be 20.7 seconds during the AM peak hour and 141.6 seconds during the PM peak hour in the Design Year (2045) scenario.

Trucks would travel through the Project area in approximately 5 minutes during the AM peak hour and PM peak hour under Alternative 2 (Build Alternative). The travel speed of trucks during the AM peak hour is approximately 46 miles per hour and 43 miles per hour during the PM peak hour. Under Alternative 2 (Build Alternative), the average delay per vehicle is 14.7 seconds in the AM peak hour and 37.1 during the PM peak hour. In comparison with Alternative 1 (No-Build Alternative), the average delay per vehicle is anticipated to be 20.7 seconds during the AM peak hour and 141.6 seconds during the PM peak hour.

Based on information contained in Table 2.8-11, the increase in speeds, decrease in travel time, and average delay per vehicle indicates there would be an improvement during the Design Year (2045) under Alternative 2 (Build Alternative). Congestion levels would be reduced under Alternative 2 (Build Alternative) when compared with Alternative 1 (No-Build Alternative). Therefore, Alternative 2 (Build Alternative) would result in a beneficial impact on the network performance of the EB

I-10 within the Project limits. No substantial adverse effects are anticipated to occur to network performance operations during the Design Year (2045) scenario under Alternative 2 (Build Alternative).

2.8.4 Avoidance, Minimization, and/or Mitigation Measures

The following measure will be implemented to develop BMPs for Project construction traffic impacts.

TR-1 During final design, a TMP will be prepared for the Project. Key elements to be considered in the TMP include the following:

- Public information
- Motorist information strategies
- Incident management
- Construction strategies
- Demand management
- Alternative route strategies

2.9 Visual and Aesthetics

2.9.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (CA Public Resources Code [PRC] Section 21001[b]).

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

2.9.2 Affected Environment

This section describes the aesthetic and visual conditions within the Project limits. The section also discusses potential aesthetic impacts that could result from implementation of the Project build alternative. Information in this section is based on the *Visual Impact Assessment* (VIA) (Caltrans 2019d) prepared for the Project in accordance with the guidance outlined in the *Visual Impact Assessment for Highway Projects* (USDOT1981).

The degree of visual quality in a view was evaluated using the following FHWA descriptive terms:

- *Vividness* is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements. Vividness is rated on a five-point scale ranging from low (not memorable) to high (strikingly memorable).
- *Intactness* is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions. Intactness is rated on a five-point scale of low (much encroachment or degradation) to high (low encroachment or degradation).

- *Unity* is the extent to which all visual elements combine to form a coherent, harmonious visual pattern. Unity is rated on a five-point scale ranging from low (little or poor integration) to high (superlative integration).

The degree of visual character in a view was evaluated using the following FHWA descriptive terms:

- *Line*: edges or linear definition
- *Form*: visual mass or shape
- *Color*: reflective brightness (light, dark) and hue (red, green)
- *Texture*: surface coarseness
- *Dominance*: components or specific features in a scene that may be dominant because of prominent positioning, size, contrast, or importance of pattern elements.
- *Scale*: the apparent size relationship between landscape components or features and their surroundings.
- *Diversity*: the number of pattern elements, as well as the variety of visual patterns among them and between them.
- *Continuity*: uninterrupted flow of form, line, color, or textural pattern and the maintenance of visual relationships between immediately connected or related landscape components or features.

For projects that do not create substantial visual changes to the existing visual setting, visual impacts are characterized into the following visual impact categories: low, moderately low, moderate, moderately high, and high based on the following descriptions:

- *Low*: Low negative change to existing visual resources and low viewer response to that change. Impact may or may not require mitigation.
- *Moderately Low*: Low negative change to the visual resource with a moderate viewer response or moderate negative change to the resource with a low viewer response. Impact can be mitigated using conventional methods.
- *Moderate*: Moderate negative change to the visual resource with moderate viewer response. Impact can be mitigated within 5 years using conventional practices.
- *Moderately High*: Moderate negative change in the visual resource with high viewer response or high negative change with a moderate viewer response. Extraordinary mitigation

practices may be required. Landscape treatment required will generally take longer than 5 years to mitigate.

- *High*: High level of negative change in character or a high level of viewer response to the change such that extraordinary architectural design and landscape treatments may not mitigate impacts below a high level. An alternative project design may be required to avoid high negative impacts.

The VIA (Caltrans 2019d) identified two viewer groups that could be impacted by the Project: highway neighbors and highway users. Each viewer group has its own particular level of viewer exposure and viewer sensitivity, resulting in distinct and predictable visual concerns for each group, which help to predict its responses to visual changes.

- *Highway Neighbors (Views to the Road):* Highway neighbors are people who have views to the roadway. For the Project, residents, business operators, and recreational users were considered as part of the highway neighbors' viewer group.
- *Highway Users (Views from the Road)*: Highway users are people who have views from the roadway. They can be subdivided into different viewer groups in two different ways: by mode of travel or by reason for travel. For the Project, commuters were considered as the highway users' viewer group.

2.9.2.1 Visual Environment

Visual Setting

The Project location and setting provides the context for determining the type of changes to the existing visual environment. The Project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway ROW and is determined by topography, vegetation, structures, and viewing distance. The Project is located on I-10 between just east of the existing EB off-ramp of Live Oak Canyon Road in the City of Yucaipa in San Bernardino County, California, and County Line Road in the City of Calimesa in Riverside County, California.

The Project is located in the Inland Valleys ecological region of Southern California (U.S. EPA 2016). The landscape is characterized by defined elevation changes (known as benches) with elevations ranging from approximately 2,000 to 2,400 feet. Land cover within the Project corridor is dominated by semiarid habitats, including rolling oak savannah, grassland, chaparral, and scrub communities. Development within the Project corridor has also resulted in the presence of urban land cover (e.g., ruderal vegetation, homes, and businesses).

As previously stated, the Project passes through the Cities of Yucaipa and Calimesa, which have different designations for various scenic resources. The Project is not located within a designated state scenic highway as identified by the California Scenic Highway Mapping System (Caltrans 2011b), the *City of Yucaipa General Plan* (City of Yucaipa 2016), or the City of Calimesa *General Plan* (City of Calimesa 2014). Although there are no designated state scenic highways located within the Project limits, the City of Yucaipa identifies Wildwood Canyon Road, immediately adjacent to the Project limits, as a locally designated scenic highway.

The Project does not contain scenic resources within the Project limits but is located in or adjacent to locally identified viewsheds. For the portion of the Project located in the City of Yucaipa, hills located south of the Project limits and west of Wildwood Canyon Road are within the City of Yucaipa's Hillside Overlay District. These hills have been identified as prominent ridgelines that contribute to existing views of the San Bernardino Mountains. The portion of the Project located within the City of Calimesa is part of the locally designated Northern Plain and Northern Plateaus and Ravines viewsheds (City of Calimesa 2014). The Northern Plain viewshed provides views of the western portion of the City of Calimesa and Riverside County areas overlooking a series of ridges and ravines (City of Calimesa 2014). The Northern Plateaus and Ravines viewshed within the Project corridor is defined as areas within the northwestern portion of the City of Calimesa that includes ridges and ravines with chaparral vegetation. This viewshed allows for views of the surrounding communities, as well as the surrounding hillsides and mountains, including the San Bernardino Mountains and San Jacinto Mountains.

A separate planned project, identified as the Caltrans I-10 Rehabilitation Project, was included as part of the visual analysis. The Caltrans I-10 Rehabilitation Project is anticipated to be completed prior to the start of construction for the Project and will add additional visual elements within the I-10 corridor. The Caltrans I-10 Rehabilitation Project will add built and natural elements within the I-10 corridor, including the resurfacing of I-10 travel lanes, provision of slope stabilization to intersections, vegetation removal within the I-10 center median, and the addition of landscaping (e.g., trees and shrubs) between Live Oak Canyon Road and County Line Road in the City of Yucaipa.

2.9.2.2 Visual Assessment Units

To help evaluate the visual resources and resource change for the Project corridor, the Project has been divided into visual assessment units (VAU). VAUs are areas with their own visual character and quality and are typically defined by the limits of a particular viewshed. For this Project, seven VAUs and associated key viewpoints have been identified and are shown on Figure 2.9-1. To further help analyze proposed changes as a result of Alternative 2 (Build Alternative), and because it is not

feasible to analyze all the views in which the Project would be seen, key viewpoints within the Project corridor have been identified that would most clearly demonstrate the change in the Project's visual resources. The two key viewpoints identified for the Project also represent the viewer groups that have the highest potential to be affected by the Project, considering the viewer groups' exposure and sensitivity. The following seven VAUs were identified:

VAU-1: I-10 Freeway Unit West: VAU-1 encompasses the western extent of the I-10 corridor within the Project limits, including the on- and off-ramps located approximately 0.20 mile west of the Wildwood Canyon Road and Calimesa Boulevard intersection. This VAU is primarily located within the Caltrans ROW.

VAU-2: I-10 Freeway Unit East of Wildwood Canyon Road: VAU-2 encompasses the I-10 corridor, including the on- and off-ramps located approximately 0.20 mile west of Wildwood Canyon Road to approximately Avenue G. This VAU is primarily located within the Caltrans ROW. Key Viewpoints 1 and 2 are located within this VAU. VAU-2 focuses on the middle portion of I-10 freeway segment primarily south of the Hillcrest Mobile Home Estates. The area within VAU-2 generally consists of I-10 between the I-10 EB rest area and approximately Avenue G within the City of Yucaipa.

VAU-3: I-10 Freeway Unit San Bernardino Riverside County Line: VAU-3 encompasses the eastern extent of the I-10 corridor, including the on- and off-ramps east of Avenue G to the eastern end of the Project limits. This VAU is primarily located within the Caltrans ROW.

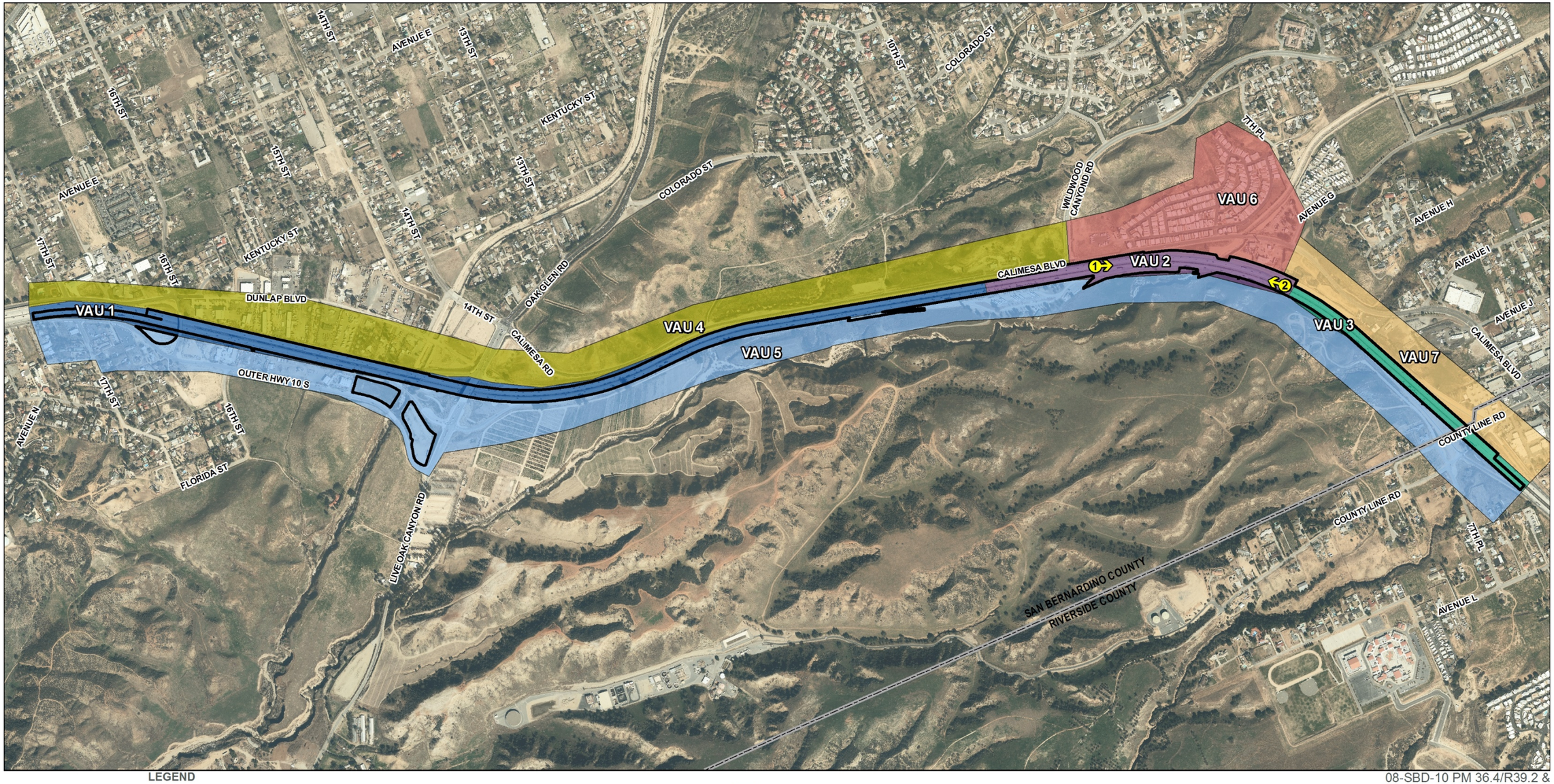
VAU-4: Commercial/Open Space Unit North of I-10: VAU-4 is comprised of predominately open space with scattered commercial areas. The VAU is roughly bounded by the western terminus of the Project limits to the west and Wildwood Canyon Road to the east. This unit is primarily located north of I-10 within the City of Yucaipa. Neighboring land uses are primarily open space with some residential and commercial uses toward the western terminus of the Project limits.

VAU-5: Commercial/Open Space Unit South of I-10: VAU-5 is comprised of predominately open space with scattered commercial areas. This VAU runs the entire length of the Project limits along the south side of the I-10 corridor within the City of Yucaipa extending into the City of Calimesa. Similar to VAU-4, neighboring land uses are predominately open space with some residential and commercial uses toward the western terminus of the Project limits.

VAU-6: Residential Unit North of I-10: VAU-6 is comprised primarily of the Hillcrest Mobile Estates, located north of I-10 and roughly bounded by Wildwood Canyon Road to the west and Avenue G to the east. The views from VAU-6 of the Project limits are limited from the eastern portion of the VAU

because I-10 is much higher in elevation than the VAU. I-10 decreases in elevation toward the western extent of the VAU.

VAU-7: County Line Commercial and Open Space North of I-10: VAU-7 encompasses the open space and commercial areas north of I-10 from approximately Avenue G to the west to approximately 0.20 mile south of County Line Road. This unit is located northeast of I-10 within the City of Yucaipa extending into the City of Calimesa from approximately Avenue G to the eastern terminus of the Project. Similar to VAU-4 and VAU-5, neighboring land uses are predominately open space with some residential and commercial uses toward the western terminus of the Project limits.



LEGEND

Project Limits

Proposed Key Viewpoint Locations

Visual Assessment Unit

- VAU 1 - I-10 Freeway Unit West
- VAU 2 - I-10 Freeway Unit East of Wildwood Canyon Road
- VAU 3 - I-10 Freeway Unit San Bernardino Riverside County Line
- VAU 4 - Commercial/Open Space Unit North of I-10
- VAU 5 - Commercial/Open Space Unit South of I-10
- VAU 6 - Residential Unit North of I-10
- VAU 7 - County Line Commercial and Open Space North of I-10

0 Feet 1,000

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600

I-10 Eastbound TCL Improvement Project

Figure 2.9-1. Visual Assessment Units and Key Viewpoints

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Key Viewpoints

The key viewpoint locations were selected that best represent the visual quality and character of the Project corridor. Two key viewpoint locations were selected, and one photorealistic simulation was prepared for the Project to demonstrate existing and proposed conditions and overall visual changes. As stated above, Key Viewpoint 1 and Key Viewpoint 2 are located within VAU-2. Locations of the key viewpoints are described below and shown on Figure 2.9-1.

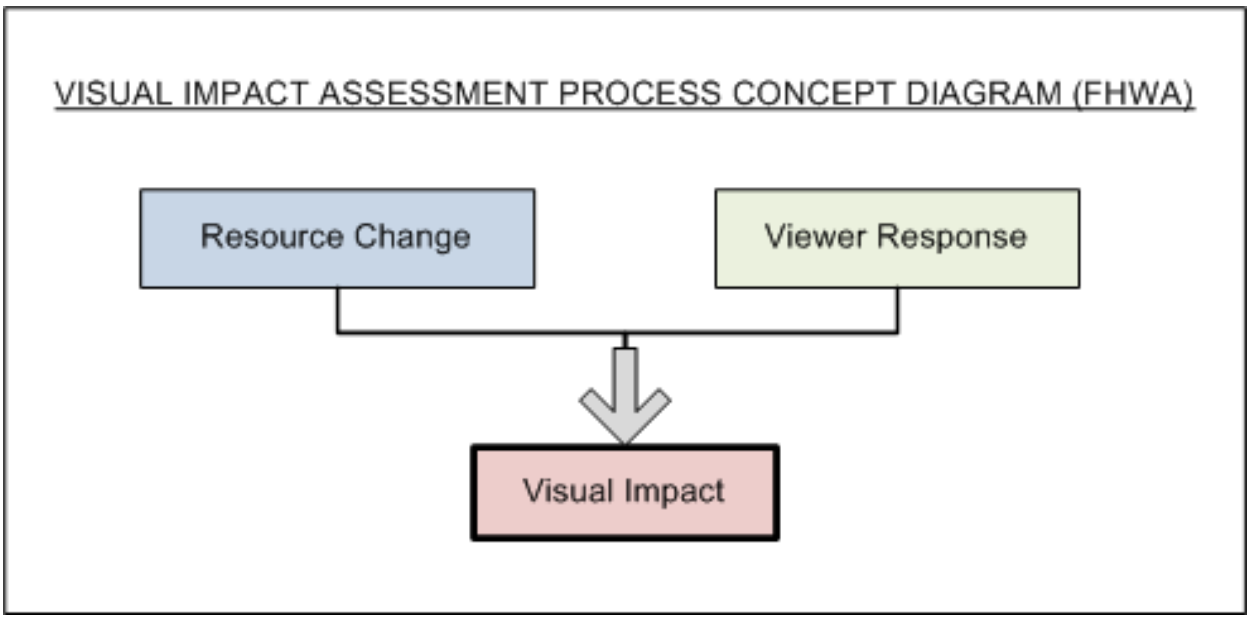
Visual Assessment Unit 2

- Key Viewpoint 1: from I-10 EB approximately 0.25 mile east of Wildwood Canyon Road with views to the east showing the current uphill slope that exists within the Project limits
- Key Viewpoint 2: from I-10 WB approximately 0.50 mile north of County Line Road with views to the northwest and of the adjacent Hillcrest Mobile Estates; southbound (SB) West Shoreline Drive looking west toward the grade separation of Golden Shore and West Shoreline Drive

2.9.3 Environmental Consequences

Visual impacts are determined by assessing changes to the visual resources and predicting viewer responses to those changes. Visual resource change is the total change in visual character and visual quality. The first step in determining visual resource change is to assess the compatibility of the Project with the existing visual character of the landscape. The second step is to compare the visual quality of the existing resources with the projected visual quality after the project is constructed. Next, viewer response to the changes is the sum of view exposure and viewer sensitivity to the Project. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose the change. These impacts can be beneficial or detrimental. Cumulative impacts and temporary impacts associated with Project construction are also considered. Figure 2.9-2 shows a generalized graphic developed by FHWA of the visual impact assessment process.

Figure 2.9-2. Visual Impact Assessment Process



Source: Caltrans 2019d

Two key view locations have been identified to represent the visual and aesthetic character of the area within the Project limits, as identified on Figure 2.9-1. One visual simulation has been prepared for Key Viewpoint 2 to show the projected changes as a result of the Project. Photorealistic simulations can help convey what would be changed and what would not be changed by the Project.

Key Viewpoint 1, Visual Assessment Unit 2: Interstate 10 Freeway Unit East of Wildwood Canyon Road

Key Viewpoint 1 is located on EB I-10, approximately 0.25 mile east of Wildwood Canyon Road with views to the east. Figure 2.9-3 shows the current uphill slope within the Project limits, where the proposed EB TCL would be constructed. As shown on Figure 2.9-3, existing visual character within Key Viewpoint 1 is dominated by the linear features of I-10 and its center median. Existing electrical lines, adjacent hillsides, and the I-10 WB lanes take up the middle ground view, while the distant mountains and ridges make up the background view.

The scale of I-10 overwhelms the view and causes both the users and neighbors to focus attention on I-10 EB. Surrounding vegetation brings limited contrast to the view resulting in low unity. The view does not present a vivid or memorable feature allowing the viewer to distinguish this view from other points along I-10 resulting in a low vividness. Intactness of the view is considered moderate due to the predominant transportation nature of the view and relatively minor visual intrusions. Therefore, the visual quality of Key Viewpoint 1 is considered moderately low.

Figure 2.9-3. Key Viewpoint 1 – Existing Condition



Resource Change

Under Alternative 2 (Build Alternative), resource changes would include removal of the thrie beam guard rail and new pavement in the landscaped area of the median to accommodate the addition of the EB TCL. No changes to lanes or restriping would occur on I-10 WB. The vegetation within the center median would be removed as a part of the Caltrans I-10 Rehabilitation Project currently under construction. Additionally, the Caltrans I-10 Rehabilitation Project would result in additional vegetation, such as various trees and shrubs, flanking both sides of I-10. No vegetation within the center median would be added as a result of the Project or the Caltrans I-10 Rehabilitation Project.

The visual character under Alternative 2 (Build Alternative) would be compatible with the existing visual character. Vividness of the view would increase to moderately low, as the new travel lanes along I-10 EB and the paving of the center median to accommodate the additional lane would result in more harmonious flow of transportation features currently broken up by scattered vegetation within the center median. These changes would increase the unity of the view, allowing for consistent visual patterns from this view and resulting in a moderately low unity. Intactness would also increase due to the more unified transportation elements with fewer non-transportation visual

intrusions of the view. Based on the changes described, the resource change of the proposed view under Alternative 2 (Build Alternative) would be considered moderately low.

Under Alternative 1 (No-Build Alternative), no changes would occur to the view as a result of the Project; however, the Caltrans I-10 Rehabilitation Project will remove vegetation within the center median and add landscaping to both sides of I-10.

Viewer Response

It is expected that highway users would have a moderately low response to the changes. Highway neighbors would also have a moderately low response. Neighbors' exposure to views resulting from the Project under Alternative 2 (Build Alternative) would be of longer duration than highway users and many would have closer views of the changes as they occur. Highway users would have a lower response to the Project than highway neighbors, as highway users' viewer exposure to the proposed changes would be limited. Both highway users and neighbors would experience moderately low viewer sensitivity to the Project under Alternative 2 (Build Alternative). Project improvements would be compatible with the existing views resulting in similar overall viewer sensitivity.

Key Viewpoint 2, Visual Assessment Unit 2: Interstate 10 Freeway Unit East of Wildwood Canyon Road

Key Viewpoint 2, Figure 2.9-4, is located on I-10 WB, approximately 0.50 mile north of County Line Road with views to the northwest. Key Viewpoint 2 focuses attention on I-10 WB and neighboring landscape north of the freeway. Visual character within Key Viewpoint 2 is dominated by the linear features of the roadway, billboards, electrical poles, and buildings. Vegetation is present within the view and provides limited diversity of textures to the smooth transportation elements. The background shows neighboring hillsides and the roofs of the Hillcrest Mobile Home Estates. The very distant view captures portions of the San Bernardino Mountains. Similar to Key Viewpoint 1, I-10 is the prominent foreground view for highway users travelling along the Project's corridor. The middle ground consists of roadway, a portion of the Hillcrest Mobile Home Estates, and scattered vegetation. The background captures neighboring hillsides, as well as portions of the San Bernardino Mountains. The transportation features throughout the view provide a moderately low sense of unity to the view. The intactness of the view is considered low due to the view consisting primarily of transportation elements and built environment with blocks of vegetation. Vividness and the overall visual quality of Key Viewpoint 2 is considered moderately low for the view. Although there are distant views of the San Bernardino Mountains within the Project's corridor, such views can be seen throughout the area from multiple vantage points.

Figure 2.9-4. Key Viewpoint 2 – Existing Condition



Resource Change

Under Alternative 2 (Build Alternative), the center median would be paved to accommodate the additional lane on I-10 EB; however, this would not be visible from Key Viewpoint 2.

It is anticipated that vividness and unity of Key Viewpoint 2 would increase, as the Caltrans I-10 Rehabilitation Project would provide additional natural elements (e.g., trees, shrubs, and vines), which would block existing views within the middle ground of the tops of homes and other urban elements intruding into the natural elements within the foreground and background. Therefore, the resource change of Key Viewpoint 2 under Alternative 2 (Build Alternative) would be considered low.

Similar to the resource changes under Key Viewpoint 1, no changes would occur to the view as a result of the Project under Alternative 1 (No-Build Alternative); however, the Caltrans I-10 Rehabilitation Project will remove vegetation within the center median and add landscaping to both sides of I-10.

Viewer Response

It is expected that highway users would have a low response to the changes and experience the most amount of change, as they would have the most exposure to the changes as a part of the Project, as well as the visual changes from the Caltrans I-10 Rehabilitation Project. The primary change within this key viewpoint is the landscaping added by the Caltrans I-10 Rehabilitation Project, as well as the closure of the center median. Highway neighbors would likely have a low

response to the proposed changes under Alternative 2 (Build Alternative) because the changes as a part of the Project are not visible from the neighboring communities north of the Project limits. I-10 at this location is at a higher elevation than the surrounding area. Wildwood Canyon Road has been identified as a locally designated scenic highway. Although the City of Yucaipa's General Plan shows the designation crossing I-10 and continuing south of I-10, a field visit and aerial survey show that Wildwood Canyon Road does not currently continue south of I-10. Neighboring viewers traveling along Calimesa Boulevard and residents, such as those of the Hillcrest Mobile Home Estates, would experience daily views consistent with the existing views, with the exception of the additional vegetation resulting from the implementation of the Caltrans I-10 Rehabilitation Project. As a result, it is anticipated that highway users would have a moderately low response, and neighbors would experience a low viewer response to the changes shown in Key Viewpoint 2.

2.9.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), the Project would not result in any of the construction activities associated with Alternative 2 (Build Alternative). Therefore, there would be no actions that would impact visual quality of the Project corridor in the short term. No temporary impacts on the existing and future visual quality would occur.

Alternative 2 (Build Alternative)

Temporary visual impacts are anticipated during the construction period for Alternative 2 (Build Alternative). Temporary impacts would include the presence of construction equipment and materials, construction staging areas, temporary roadside barriers, and construction and detour signage within the area of the Project limits, as well as construction activities, such as truck hauling, excavation activity, and the removal of existing mature plantings. Project construction is anticipated to take 16 months to complete and would disturb a total of 12.3 acres, 7.3 acres of which would be converted to impervious surfaces. Approximately four mature trees would be removed during construction; however, Measure VIS-2 would minimize impacts as a result of vegetation removal. Tree and vegetation removal on public lands would comply with the City of Yucaipa and Caltrans landscaping policies, as provided in Measure VIS-2. Additionally, temporary impacts would be reduced through compliance with City of Yucaipa policies and Caltrans Standard Construction Specifications, as outlined in Measure VIS-3. The Project corridor currently is illuminated at night from passing vehicles, street lighting, traffic signals, freeway lighting, and the surrounding residential and commercial uses. Existing lighting may be modified as a result of the Project under Alternative 2 (Build Alternative). Measure VIS-1 would reduce potential impacts related to an increase in light

and glare under Alternative 2 (Build Alternative). With implementation of Measures VIS-1 and VIS-2, the Project under Alternative 2 (Build Alternative) would not conflict with any local plans, policies, goals, or Municipal Code regulations.

2.9.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), the construction of the Project would not occur. However, even without implementation of the Project, routine maintenance of the Project corridor area would still continue. It is anticipated that future planned projects in the I-10 corridor exclusive of the Project would change the visual environment in the area over time from the existing views to views that are more urban in appearance.

Alternative 2 (Build Alternative)

Long-term impacts for the Project would include the addition of the EB TCL and widening of the Oak Glen Creek Bridge. The Project may include additional lighting throughout the Project limits; however, Measure VIS-1 would minimize potential permanent impacts related to light and glare during Project operation. The San Bernardino Mountains are visible in distant views in portions of the Project limits. The Project under Alternative 2 (Build Alternative) would not result in adverse visual impacts. There are no outstanding scenic vistas that would potentially be impacted by Alternative 2 (Build Alternative). Distant views of the San Bernardino Mountains would be preserved throughout the Project limits, with the exception of the new landscaping that would occur as part of the Caltrans I-10 Rehabilitation Project.

Design features, identified under Section 2.9.4, Avoidance, Minimization, and Mitigation Measures, would address impacts on landscaping, lighting, and the City of Yucaipa goals and policies, as well as traffic impacts, as a result of the Project. Impacts on the City of Yucaipa locally designated scenic highway are minimal, as the Project would help enhance the terminus by creating a defining feature and removing distracting elements from the views to the south, enhancing scenic highway users' and neighboring users' experience. Existing structures and vegetation within the Hillcrest Mobile Home Estates block most views of the surrounding areas from within the private and not publicly accessible community. Project construction would require removal of trees and other vegetation in the ROW. Tree and vegetation removal on public lands would comply with City of Yucaipa and Caltrans landscaping policies, as provided in Measure VIS-2. The removal of trees installed by the Caltrans I-10 Rehabilitation Project along the I-10 corridor would be replaced at a ratio, size, and location, as outlined in Measure VIS-2 and finalized during PS&E. Overall, visual impacts would be

moderately low. The change to the visual resources and views are minor and consistent with the existing setting.

The summary below describes the anticipated changes to the visual environment for each VAU and associated key viewpoint.

Visual Assessment Unit 1: Interstate 10 Freeway Unit West

Project resource changes under Alternative 2 (Build Alternative) within VAU-1 would consist of the widening of the existing Oak Glen Bridge within the center median; paving the center median, where applicable; removing the existing guard rail; restriping to add another lane to I-10 EB; installing additional signage and the new TCL; and removing any remaining vegetation from the center median.

Viewer sensitivity within this VAU is anticipated to be low, as highway users' views are limited to the I-10 and would have a shorter duration of any roadway views. Their sensitivity to visual change as a result of the Project would be low because the view of the new I-10 TCL would be similar in nature to the existing highway view, with many of the same elements. For these viewers, the wider pavement section is not expected to create any substantial changes to the visual environment. Although vegetation from the center median would be removed, Measure VIS-2 would require development and implementation of a landscape plan to ensure appropriate replacement landscaping is incorporated into the Project.

Because the proposed improvements in this VAU are limited and the viewer sensitivity low, the corresponding change to the visual environment is anticipated to be minor. With adherence to Measure VIS-2, visual impacts within VAU-1 would be considered low.

Visual Assessment Unit 2: Interstate 10 Freeway Unit East of Wildwood Canyon Road

Resource changes would be similar to those discussed in VAU-1. As discussed within Key Viewpoint 1 and Key Viewpoint 2, resource changes within these areas are considered moderately low overall. Proposed changes would be visible to highway users; however, the most notable changes would be the additional vegetation added as a result of the Caltrans I-10 Rehabilitation Project. Views to natural resources may be temporarily impaired as highway users' travel along I-10. Project improvements that would result in new Project elements blocking existing views would be inconsistent with the existing setting. The Project under Alternative 2 (Build Alternative) may require the removal of some vegetation; however, Measure VIS-2 would minimize adverse visual landscaping changes. The overall visual impact for VAU-2 would be considered moderate.

Visual Assessment Unit 3: Interstate 10 Freeway Unit San Bernardino Riverside County Line

VAU-3 focuses attention on I-10 within Caltrans ROW from the eastern terminus to approximately Avenue G. Similar to VAU-1, resource changes for this VAU would consist of paving the center median, where applicable; removing the existing guard rail; restriping to add another lane to I-10 EB; and adding additional signage and the new TCL. Highway users' views are limited to the viewer's ability to look around (passenger or non-motorist) or the direction of travel. Similar to VAU-1, Alternative 2 (Build Alternative) within VAU-3 would have no adverse impacts on scenic resources, such as the hills south of I-10 or distant views of the San Gabriel Mountains, as there are no Project improvements that would cause new elements to block existing views within this VAU. Similar to the findings in VAU-1, the overall visual impact would also be considered low.

Visual Assessment Unit 4: Commercial/Open Space Unit North of Interstate 10

The views from VAU-4 consist of views to the Project limits from neighboring areas. Due to varying elevation differences of the roadway to I-10, views vary as portions of I-10 are higher than the area within VAU-4 and, in other locations, lower than the surrounding area of VAU-4. Resource changes within this VAU would consist of paving the center median, striping on I-10 EB, and restriping for the new lane to accommodate the EB TCL. In areas where the VAU is lower than I-10, changes as a result of the Project under Alternative 2 (Build Alternative) would not be visible. In areas where I-10 is lower or approximately level with VAU-4, resource changes would have limited visibility, as these changes primarily occur on the opposite side of the freeway. Additionally, multiple areas throughout this VAU have retaining walls or noise barriers blocking views of portions or all of I-10 to the south. Visual impact for this VAU is considered low.

Visual Assessment Unit 5: Commercial/Open Space Unit South of Interstate 10

Due to the pockets of residential and commercial uses concentrated in the western portion of the VAU, views from VAU-5 to the Project limits would be limited. Motorists, bicyclists, and pedestrians can be present within the open space south of I-10 and also utilize the I-10 EB rest area; however, most neighboring views are expected within the residential and commercial areas. Resource changes within this VAU consist of three staging areas. The topography of VAU-5 limits the areas within which Project changes under Alternative 2 (Build Alternative) are visible. In areas where I-10 is lower or approximately level with VAU-5, resource changes would be visible, as these changes primarily occur on the same side of the freeway as this VAU. Visual impact for this VAU is considered low.

Visual Assessment Unit 6: Residential Unit North of Interstate 10

There are no resource changes within this VAU under the proposed Project. Distant views of the hillsides from the Project limits may be blocked by the additional vegetation as a result of the Caltrans I-10 Rehabilitation Project. Views to the Project limits from Wildwood Canyon Road, a locally designated scenic highway, would primarily remain the same but would have a direct view of the additional vegetation

Residents of the Hillcrest Mobile Home Estates would also experience much of the same views with the exception of the additional vegetation. Existing structures and vegetation surrounding the community block most views of the surrounding areas from within the private and not publicly accessible community. Visual impacts would be considered low within VAU-6.

Visual Assessment Unit 7: County Line Commercial and Open Space North of Interstate 10

Due to the small number of residential and commercial uses within the southern section of the VAU, views from VAU-7 to the Project limits are very limited. Resource changes within this VAU consist of three staging areas. Similarly to VAU-4, the topography of the area limits the amount of area within this VAU where Project changes under Alternative 2 (Build Alternative) are visible. In areas where I-10 is lower or approximately level with VAU-7, resource changes would be visible as these changes primarily occur on the same side of the freeway as this VAU. Visual impact for this VAU is considered low.

2.9.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures are recommended to reduce the potential impacts related to visual and aesthetics under Alternative 2 (Build Alternative).

VIS-1 During final design, lighting fixtures will be selected to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with non-glare hoods and focused within the Project ROW. The lighting plan will be reviewed and approved by the City of Yucaipa and City of Calimesa Resident Engineer and Caltrans District 8 Landscape Architect prior to construction to ensure compliance with these criteria.

VIS-2 During final design, a highway landscape plan will be prepared that identifies all opportunities to use areas within the state ROW for full landscaping consistent with the Caltrans *Highway Design Manual* (HDM). This will include landscaping for graded areas with plant species consistent with adjacent vegetation and enhancement of new Project structures, such as ramps and tunnels, to the extent feasible. This plan will incorporate all applicable procedures and requirements detailed in the Caltrans HDM, Section 902.1,

Planting Guidance, General Guidance for Freeways and Expressways (Caltrans 2018b), and policies of the City of Yucaipa's General Plan and Municipal Code, as applicable. Selected vegetation and irrigation will utilize drought resistant landscaping and recycled water, when feasible, and incorporate native and climate appropriate vegetation, when appropriate, as outlined in California Streets and Highways Code Section 92.3.

VIS-3 During final design, the City of Yucaipa Resident Engineer will verify that design elements are consistent with the vision for the City of Yucaipa regarding aesthetic enhancements, scenic corridors, landscaping, streetscapes, materials, and colors.

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2.10 Cultural Resources

2.10.1 Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the

definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way.

2.10.2 Affected Environment

This section is based on the *Historic Property Survey Report* (HPSR) and *Archaeological Survey Report* (ASR) prepared for the Project (Caltrans 2019b, 2019c). The HPSR and ASR discuss the development of the area of potential effects (APE), pre-field literature and record searches conducted for the Project, consultation efforts, and a cultural resource survey of the APE.

2.10.2.1 Methods

Area of Potential Effects

The Project APE was established from the Project footprint, including all construction areas, construction signage, and staging and storage areas, as well as a buffer to include potential indirect effects that may occur as a result of this undertaking. The APE evaluates potential direct and indirect effects that may develop as a result of the Project, and includes archeological resources and built-environment resources. The APE covers an approximately 3.8-mile-long segment of I-10 and includes approximately 15 acres of access corridor and 5.3 acres of land for staging. The width of the APE varies from 63 feet to 267 feet. In total, the APE encompasses an area of approximately 74.1 acres.

Regarding the vertical limits of the APE, typical roadway improvements may reach a maximum depth of 3 feet bgs. The metal guardrail installation is estimated to not exceed 40 inches in depth. Installation of signage foundations would be excavated to a depth of up to 6 feet. All new above-ground structures (i.e., traffic signal poles and overhead signage) proposed as part of the Project would be consistent in height with existing poles and signage currently within the ROW. Finally, geotechnical boreholes adjacent to the Oak Glen Creek Bridges are anticipated to reach a maximum depth of 100 feet.

Records Search

The records search was conducted at the South Central Coastal Information Center (SCCIC) located at the California State University, Fullerton, and the Eastern Information Center (EIC) located at the University of California, Riverside. Both the SCCIC and EIC facilities are repositories of permanent

cultural resource records and research reports and are part of the California Historical Resource Information System (CHRIS).

The CHRIS staff conducted a cultural records search and literature review at the SCCIC on October 18, 2017, and at the EIC on September 28, 2017. The record search covered the APE with a 1-mile-wide buffer. The search indicated that 81 cultural resources studies have been conducted within 1 mile of the APE since 1955. Of these 81 cultural resources studies, 3 involved portions of the APE, resulting in approximately 60 percent of the APE having been previously surveyed.

A total of 43 previously recorded cultural resources within 1 mile of the APE were identified from the three studies, which included 12 prehistoric archaeological sites, 12 historical archaeological sites, 2 sites containing both prehistoric and historical artifacts, 3 isolated artifacts, and 14 built-environment resources. None of these previously documented resources were reported within the APE.

A desktop review was also conducted at the Office of Historic Preservation (OHP) Archaeological Determination of Eligibility and the OHP's Directory of Properties in the Historic Property Data File. These sources identified two properties, Yucaipa Rancheria and the Yucaipa/Sepulveda Adobe, within 1 mile of the APE. The Yucaipa/Sepulveda Adobe is a designated California Historic Landmark (No. 528); however, both properties are located outside the APE.

Archival maps were also reviewed to assess the historical land use and development. Historical maps consulted included the Yucaipa (1954, 1967, 1973, and 1980) 7.5-minute USGS Topographic Quadrangle maps; Redlands (1899, 1901 and 1954) 15-minute USGS Topographic Quadrangle maps; and the 1938, 1959, and 1966 historic aerial photographs from NETROnline. I-10 (formerly U.S. Route 99) is depicted on all of the historic maps and aerial photographs, except the Redlands 1899 and 1901 USGS Topographic Quadrangle maps.

Historical aerial photographs and maps of the APE were examined to determine the approximate ages of buildings and structures. All parcels are vacant or contain buildings or structures constructed after 1973 or meet the criteria for exemption from evaluation per the Section 106 Programmatic Agreement Attachment 4.

Field Surveys

Prior to the fieldwork, historical aerial photographs and maps of the area were examined to assess current conditions throughout the APE. The purpose of the survey was to assess the presence or absence of intact cultural materials and verify the character and nature of the APE, including the extent of hardscape and overall degree of previous ground disturbance. This examination indicated that much of the APE is covered with hardscape that includes roadways and parking lots.

On December 5, 2017, qualified archaeologists conducted an archaeological pedestrian survey of portions of the APE not covered with hardscape. Areas surveyed included the staging areas. Survey transects within the three potential staging areas were spaced apart at intervals of 30 to 55 feet. In addition to areas covered in hardscape, portions of the APE within the I-10 corridor were not surveyed due to safety concerns. To determine if any exposed areas of native soils are present in the APE, the archaeologists conducted spot-checks of undisturbed ground surface along the I-10 EB and WB on- and off-ramps at County Line Road and along the shoulders of I-10 north and south of Wildwood Wash. In addition, areas adjacent to the APE were also surveyed.

Native American Consultation

On September 20, 2017, the Native American Heritage Commission (NAHC) was consulted to elicit pertinent cultural resource information available in the Sacred Lands File. NAHC responded September 27, 2017, stating the Sacred Lands File search for the Project was completed, and the results were negative, but the area is sensitive for cultural resources. The NAHC provided a list of recommened Native American contacts within the region for follow-up.

After review of the list of Native American contacts provided by NAHC, Caltrans' District 8 Native American Coordinator initiated Section 106 contact with the following individuals through a letter dated October 9, 2017:

- Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians
- Anthony Morales, Chairperson, Gabrielino-Tongva Tribe
- Sandonne Goad, Chairperson, Gabrielino-Tongva Tribe
- Robert Dorame, Chairperson, Gabrielino-Tongva Tribe
- Lee Claus, Director of Cultural Resources, San Manuel Band of Mission Indians
- Goldie Walker, Chairperson, Serrano Nation of Mission Indians
- Joseph Ontiveros, Cultural Resource Department, Soboba Band of Luiseño Indians

These letters also served as formal notification of the Project as required under CEQA, specifically PRC 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., Assembly Bill 52). The letters provided a Project description and location and discussed upcoming cultural resources studies of the Project area.

The first round of follow-up phone calls and emails was conducted March 2, 2018. A second round of follow-up emails and phone calls was completed April 3 and April 11, 2018, respectively. A third round of follow-up emails was conducted May 7, 2018, and a final round of follow-up emails was

conducted June 6, 2018. A summary of the responses received as a result of this correspondence is provided below.

- Mr. Joseph Ontiveros, a member of the Cultural Resource Department for the Soboba Band of Luiseño Indians, requested to consult with Caltrans pursuant to Section 106. The Project is within the Tribe's traditional use area and is within close proximity to known sites that are considered culturally sensitive by the Tribe. The Tribe requested that Native American monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department be present during any Project-related ground disturbance. On March 25, 2019, Caltrans sent a notice of Project footprint reduction letter to Mr. Ontiveros. The reduction of the Project footprint meant the Project would not touch culturally sensitive areas. Because no further response was received from Mr. Ontiveros regarding the Project, Caltrans deemed consultation complete.
- Ms. Lee Clauss, Director of Cultural Resources for the San Manuel Band of Mission Indians, requested to consult with Caltrans pursuant to Section 106 and Assembly Bill 52. The Project is within Serrano ancestral territory and, as such, it is of interest to the Tribe. The Tribe requested additional Project plans and a more detailed Project description to assess the Tribe's level of concern regarding the Project. On March 25, 2019, Caltrans sent a notice of the Project footprint reduction letter to Ms. Clauss. Because no further response was received from Ms. Clauss regarding the Project, Caltrans deemed consultation complete.
- Ms. Goldie Walker, Chairperson of the Serrano Nation of Mission Indians, stated she was ill and hospitalized and in no condition to discuss the Project. Ms. Walker noted that her son, Mark Cochran, may be able to call at a later date. Ms. Walker passed away in April 2018. Future Project correspondence will go to Ms. Walker's son, Mr. Mark Cochran. Caltrans will send Mr. Cochran a copy of the final report for the Project.

2.10.2.2 Results

Archaeological Resources

As previously discussed, the records search had identified 43 previously recorded cultural resources, but none were reported within the APE. An additional desktop records review had also identified two additional properties in the study area, but both properties are not located within the APE. No cultural resources were identified within the APE during the archaeological pedestrian survey.

Ground-surface visibility within open areas (i.e., not covered by hardscape) varied from 30 to 100 percent due to grassy cover, gravels, and wood chips. The field survey revealed that the

majority of the APE has been disturbed previously by extensive mechanical alteration, which also introduced fill sediments. Other areas of the ground surface are obscured by hardscape that includes paved roadways and parking lots, as well as graveled areas.

Geological and archaeological data indicate undisturbed sediments within the APE are characterized by alluvial axial-valley deposits and wash sediments with a low sensitivity for intact and significant buried archaeological resources. To determine if the proposed undertaking would impact these undisturbed sediments, the existing extent and degree of ground disturbance within the APE was considered. Project-specific design elements were examined to assess whether they would result in additional disturbances to intact native sediment. The findings of this analysis indicate construction activities within the present roadway alignments are not expected to extend into undisturbed sediments. While excavations for geotechnical boreholes adjacent to the Oak Glen Creek Bridges have the potential to impact native sediments, the sediments in this area consist of alluvial axial-valley deposits and wash sediments with a low sensitivity for intact and significant buried archaeological resources. Therefore, there is little to no potential for encountering intact and significant subsurface cultural deposits during construction.

No cultural resources requiring NRHP and/or CRHR eligibility evaluations, pursuant to Section 106 and CEQA, were identified within the limits of the APE.

Built-Environment Resources

Historical aerial photographs and maps of areas located within the APE were examined to determine the approximate ages of any buildings or structures. All parcels within the APE are located in the City of Yucaipa within San Bernardino County and the City of Calimesa within Riverside County. These parcels within the APE were observed to either be vacant or contain buildings or structures that predate 1973. Therefore, no parcels with built-environment resources located within the APE are considered historic properties.

Section 4(f) Resources

Section 4(f) of the Department of Transportation Act of 1966 provides protection for historic properties. There are no historic properties present within the APE; therefore, there are no Section 4(f) historic sites affected by the proposed Project.

State Historic Preservation Officer Consultation

Since no cultural resource evaluations are required within the limits of the APE, consultation with the SHPO is not required.

2.10.3 Environmental Consequences

2.10.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not change the existing physical environment; therefore, no temporary impacts on cultural resources would occur.

Alternative 2 (Build Alternative)

There are no recorded archaeological resources or historic properties within the APE. In addition, although undisturbed sediments within the APE have a low sensitivity for intact and significant buried archaeological resources, the Project is not expected to extend into undisturbed sediments.

Although the Project is not anticipated to impact archaeological resources or historic properties, construction activities, such as excavating and the drilling of geotechnical borings, have the potential to inadvertently uncover unknown archaeological resources. While the potential to discover an unknown archaeological resource is low, implementation of Caltrans' standard practice for the discovery of cultural resources (Measure CR-1) and human remains (Measure CR-2) would further reduce the potential to inadvertently impact archaeological resources.

Based on the Native American consultation conducted to date, the Project is located within the Serrano ancestral territory and consultation with the San Manuel Band of Mission Indians tribe has been deemed complete. It is also located within the Soboba Band of Luiseño Indians Tribe’s traditional use area and is within close proximity to known sites that are considered culturally sensitive by the Tribe. The Soboba Band of Luiseño Indians Tribe requested that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department be present during any Project-related ground disturbance. However, the Project footprint has been reduced, which meant the Project would not touch culturally sensitive areas, and monitoring would not be required.

2.10.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not change the existing physical environment; therefore, no permanent impacts on cultural resources would occur.

Alternative 2 (Build Alternative)

Operation of Alternative 2 (Build Alternative) would have no effect on cultural resources; therefore, no permanent impacts on cultural resources would occur.

2.10.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce the likelihood of adverse effects related to temporary impacts associated with cultural resources during construction under Alternative 2 (Build Alternative).

CR-1 If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

CR-2 During construction, if human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities will stop in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted within 24 hours of the discovery. If the remains are thought by the coroner to be Native American, the coroner will notify NAHC, who, pursuant to PRC Section 5097.98, will then notify the most likely descendent (MLD). At this time, the person who discovered the remains will contact Gary Jones, District 8 Native American Coordinator, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Physical Environment

2.11 Hydrology and Floodplain

2.11.1 Regulatory Setting

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.11.2 Affected Environment

This section is based on the *Location Hydrologic Study* (Caltrans 2018c), *District Preliminary Geotechnical Report* (Caltrans 2019o), *Stormwater Data Report* (Caltrans 2017b), *Water Quality Assessment Report* (WQAR) (Caltrans 2019e), and the *Natural Environment Study (Minimal Impacts)* (NES[MI]) (Caltrans 2019j) prepared for the Project.

2.11.2.1 Local Hydrology

The Project is located within the Santa Ana River Hydrologic Unit (801.0) and the San Timoteo Hydrologic Sub-Area (801.61, 801.63, 801.66, and 801.67). In addition, the Project is located in the Yucaipa Creek Watershed, which is a subwatershed of the San Timoteo Creek Watershed. Three waterbodies are located within the Project limits: Wilson Creek, Yucaipa Creek, and Wildwood Wash. All three waterbodies are natural bottom creeks with water originating from the San Bernardino Mountains and are tributaries to the Santa Ana River. The Santa Ana River flows

southwest from San Bernardino County through Riverside County and into Orange County, and eventually drains into the Pacific Ocean.

2.11.2.2 Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 06071C8740H and 06065C0114G shows the Project limits as being located within the following flood zones (Figure 2.11-1):

- Zone AE includes areas subject to inundation by the 1-percent annual chance flood event determined by detailed methods (100-year flood level).
- Zone AO includes areas subject to inundation by the 1-percent annual chance flood event where average depths are between 1 and 3 feet (100-year flood level).
- Zone D includes unstudied areas where flood hazards are undetermined but flooding is possible.
- Zone X (or 0.2 percent Annual Chance Flood Hazard) includes areas of minimal flood hazard (usually depicted on FEMA FIRM Maps as the 500-year flood level).

Per the FEMA FIRM, Wilson Creek, Yucaipa Creek, and Wildwood Wash are waterbodies that have been designated as flood hazard areas associated with 100-year floodplains and are further described below.

Wilson Creek

Wilson Creek is a natural bottom creek that flows southwest and crosses under I-10 within the Project limits approximately 0.10 mile north of the Oak Glen Road overcrossing. After Wilson Creek crosses the Project limits, Wilson Creek converges with Yucaipa Creek south of I-10. The portion of Wilson Creek within the Project limits is designated by FEMA FIRM Panel 06071C8740H as Zone AE. The area surrounding the Wilson Creek and I-10 crossing is designated as Zones AE and X.

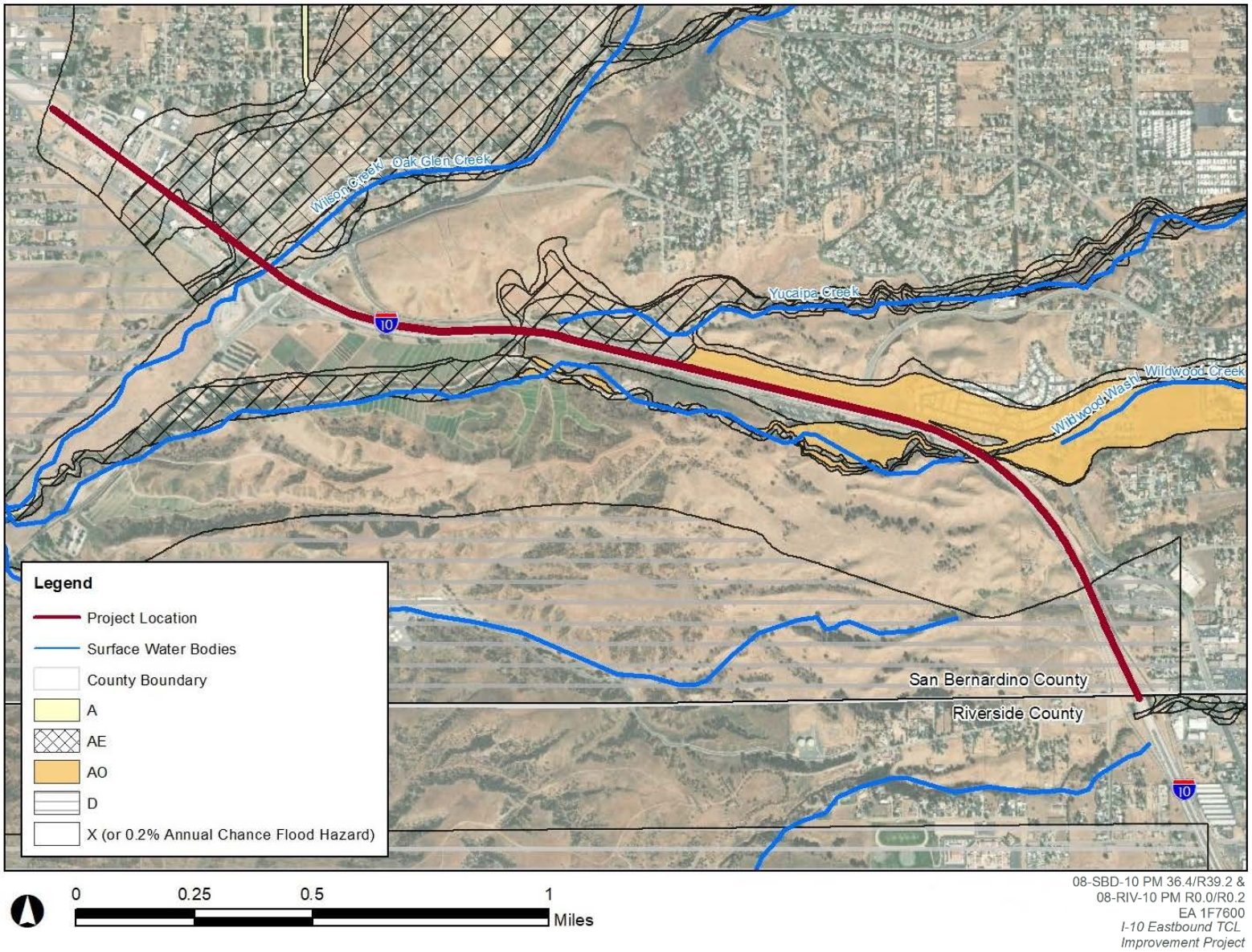


Figure 2.11-1. Federal Emergency Management Agency Flood Zone Map

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Yucaipa Creek

Yucaipa Creek originates north of I-10 at the base of the San Bernardino Mountains. From the origin, Yucaipa Creek is a natural bottom creek that flows westward crossing the Project limits approximately 0.5 mile east of the intersection of Oak Glen Road and I-10. After crossing the Project limits under the interstate via culverts, Yucaipa Creek converges with Wilson Creek south of I-10. The portion of Yucaipa Creek within the Project limits is designated by FEMA FIRM Panel 06071C8740H as Zones AE and AO. The area surrounding the Yucaipa Creek and I-10 crossing is designated as Zones AE, AO, and X.

Wildwood Wash

Wildwood Wash originates north of I-10 at the base of the San Bernardino Mountains. From the origin, Wildwood Wash is a natural bottom creek flowing to the west. Wildwood Wash is directed under I-10 via concrete-lined culverts and crosses the Project limits approximately 250 feet south of the Hillcrest Mobile Home Estates. After crossing the Project limits, Wildwood Wash converges with Yucaipa Creek south of I-10. The portion of Wildwood Wash that crosses the Project limits is designated by FEMA FIRM Panel 06071C8740H as Zone AO. The area surrounding the Wildwood Wash and I-10 crossing is designated as Zones AE, AO, and X.

2.11.2.3 Natural and Beneficial Floodplain Values

Natural and beneficial floodplain values associated with the Project include, but are not limited to, natural beauty, plants, wildlife, water quality maintenance, and ground water recharge (Caltrans 2018c).

Natural Beauty

The Project is within the *Freeway Corridor Specific Plan* (City of Yucaipa 2008), which includes areas of natural beauty defined by a complex topography of rolling terrain, oak trees, streams, and riparian corridors. The *Freeway Corridor Specific Plan* places emphasis on maintaining the natural beauty of this area. In addition, according to Section 2.9, Visual and Aesthetics, a portion of the Project is within the Hillside Overlay District, which contains hills with prominent ridgelines that contribute to the existing views of the San Bernardino Mountains. The hills within the Hillside Overlay District, as well as open space land uses within and surrounding the Project limits, is comprised of semiarid habitats, including rolling oak savannah, grassland, chaparral, and scrub communities.

Plants

The NES(MI) (Caltrans 2019j) prepared for this Project identified a list of special-status plant species and habitats with the potential to occur within the Project limits and immediately surrounding area. The NES(MI) identified 41 special-status plant species and 33 non-listed special-status plant species, as well as 2 sensitive vegetation communities (Disturbed Buckwheat Scrub and Disturbed Riparian Scrub) known to occur in the region. Disturbed Buckwheat Scrub occurs in uplands, on slopes, and occasionally on rarely flooded low-gradient deposits along streams. Disturbed Riparian Scrub is associated with riverine areas and alluvial floodplains. Disturbed Buckwheat Scrub and Disturbed Riparian Scrub are located within Wilson Creek and provide suitable habitat to plant and wildlife species. Further information on vegetation communities and plant species can be found in Section 2.19, Natural Communities, Section 2.21, Plant Species, and Section 2.23, Threatened and Endangered Species.

Wildlife

The NES(MI) identified 50 special-status wildlife species known to occur in the region, including 2 fishes, 2 amphibians, 12 reptiles, 20 birds, and 14 mammals. Thirteen of these species are federally and/or state-listed as endangered or threatened, proposed endangered or threatened, or are considered California fully protected (CFP) species.Three bats listed as California Department of Fish and Wildlife (CDFW) species of special concern (SSC) were listed on the California Natural Diversity Database (CNDDB) within the area: pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), and western yellow bat (*Lasiurus xanthinus*), These SSC may be found roosting in the bridge structures over the freeway and the Wildwood Creek and Yucaipa Creek culverts under I-10.

The following threatened and/or endangered wildlife species have the potential to be found within the Project limits or the 500-foot endangered species buffer area: coastal California gnatcatcher (CAGN) *(Polioptila californica)*, Swainson's hawk *(Buteo swainsoni)*, southwestern willow flycatcher (SWFL) (*Empidonax traillii extimus)*, and least Bell's vireo (LBVI) *(Vireo bellii pusillus)*. In addition, there is a potential for burrowing owl (BUOW) (*Athene cunicularia*) to be found within the 500-foot endangered species buffer as suitable BUOW habitat was identified during biological field surveys. Disturbed Buckwheat Scrub within the Project limits and surrounding area provides low quality, but potentially suitable habitat to support the CAGN. Disturbed Riparian Scrub habitats provide potential foraging habitat for LBVI and SWFL within Wilson Creek, Yucaipa Creek, and a small portion of Calimesa Channel west of the Project limits.

Both Wildwood Wash and Wilson Creek are identified in the *City of Yucaipa General Plan* (City of Yucaipa 2016), as wildlife movement corridors and provide important habitat connectivity between the San Bernardino Mountains to the north and San Gorgonio Wilderness to the south. Further information on wildlife species and wildlife movement corridors can be found in Section 2.19, Natural Communities, Section 2.21, Animal Species, and Section 2.23, Threatened and Endangered Species.

Water Quality Maintenance

The Regional Water Quality Control Board (RWQCB) *Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin* (California Water Boards 2019) has designated beneficial uses for Wilson Creek, Yucaipa Creek, and Wildwood Wash (listed in Table 2.11-1 and defined below). A beneficial use is one of the various ways that water can be used for the benefit of people and/or wildlife. Examples include drinking, swimming, industrial and agricultural water supply, and the support of fresh and saline aquatic habitats. The Basin Plan (California Water Boards 2019) designates beneficial uses for surface waters and groundwater resources within the Santa Ana RWQCB, Region 8.

Wilson Creek, Yucaipa Creek, and Wildwood Wash are not listed as impaired waters on the Clean Water Act (CWA) 303(d) List and 305(b) Report of the 2014 and 2016 Integrated Report. However, there are downstream receiving water bodies that are impaired, such as sections of San Timoteo Creek and sections of Santa Ana River, and Newport Slough, which are further discussed in Section 2.12, Water Quality and Storm Water Runoff.

Table 2.11-1. Existing Beneficial Uses

	Beneficial Uses						
Water Body Name	**MUN**	**GWR**	**REC1**	**REC2**	**WARM**	**WILD**	**RARE**
Wilson Creek	X	X	X	X	X	X	—
Yucaipa Creek	I	I	I	I	I	I	X
Wildwood Wash	I	I	I	I	I	I	—

Source: California Water Boards 2019

Notes:

X=Existing or Potential Beneficial Use; GWR=Groundwater Recharge; I=Intermittent Beneficial Use; MUN=Municipal and Domestic Supply; RARE=Rare, Threatened, or Endangered Species; REC1=Water Contact Recreation; REC2=Non-contact Water Recreation; WARM=Warm Freshwater Habitat; WILD=Wildlife Habitat

- **Municipal and Domestic Supply (MUN)** waters are used for community, military, municipal, or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
- **Groundwater Recharge (GWR)** waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.
- **Water Contact Recreation (REC1: Primary Contact Recreation)** waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.
- **Non-contact Water Recreation (REC2: Secondary Contact Recreation)** waters are used for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
- **Warm Freshwater Habitat (WARM)** waters support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- **Wildlife Habitat (WILD)** waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
- **Rare, Threatened, or Endangered Species (RARE)** waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened, or endangered.

The Project is within the San Timoteo Creek and Yucaipa Creek groundwater management zones. The Basin Plan (California Water Boards 2019) has the following designated beneficial uses for groundwater in the San Timoteo Creek and Yucaipa Creek groundwater management zones:

- **Municipal and Domestic Supply (MUN)** waters are used for community, military, municipal, or individual water supply systems. These uses may include, but are not limited to, drinking water supply.

- **Agricultural Supply (AGR)** waters are used for farming, horticulture, or ranching. These uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
- **Industrial Service Supply (IND)** waters are used for industrial activities that do not depend primarily on water quality. These uses include, but are not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
- **Industrial Process Supply (PROC)** waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.

Groundwater Recharge

The Project is located within the South Coast hydrologic region, Santa Ana River hydrologic unit (801.0), and San Timoteo hydrologic sub-area (801.61, 801.63, 801.66, and 801.67). In addition, the Project is located within the Yucaipa Creek sub-watershed and the San Timoteo Canyon-San Timoteo Wash sub-watershed. The Yucaipa Creek and San Timoteo Canyon-San Timoteo Wash sub-watersheds are within the San Timoteo Creek Watershed. The San Timoteo Creek Watershed drains approximately 77,970 acres and is a tributary to the Santa Ana River. The Yucaipa Subbasin within the Upper Santa Ana Valley Groundwater Basin covers approximately 39 square miles (approximately 25,300 acres) and is bounded by surface drainage divides, the Crafton Hills, the San Andreas fault zone, the San Bernardino Mountains foothills, and the Cherry Valley fault (Caltrans 2019o). The nearest local groundwater well is located approximately 0.31 mile northwest of the intersection of Wildwood Canyon Road/Calimesa Boulevard. Groundwater depth from this well has been identified to be located approximately 152 feet bgs (California Department of Water Resources, Water Data Library, Local Well “Hog Canyon #2”, State Well Number 02S02W10B002S) (California Department of Water Resources 2019). According to the WQAR (Caltrans 2019e), there are no municipal or domestic water supply reservoirs or groundwater percolation facilities within the Project limits.

2.11.3 Environmental Consequences

EO 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse effects associated with the occupancy and modification of floodplains and avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

A “significant encroachment,” as defined in 23 CFR 650.105(q), is a highway encroachment that would result in (1) a significant potential for interruption or termination of a transportation facility that

is needed for emergency vehicles or provides a community's only means of evacuation, (2) a significant risk, or (3) a significant adverse impact on natural and beneficial floodplain values.

The Project would entail the widening of Oak Glen Creek Bridge (No. 54-0648) within Wilson Creek. However, no changes to the bridge or culvert crossing at Yucaipa Creek and Wildwood Wash would be required and, as a result, no change to base flood flow volumes and rates would occur, and no effects on floodplains associated with Yucaipa Creek and Wildwood Wash would occur. Therefore, the following discussion is focused primarily on potential floodplains effects on Wilson Creek.

As previously mentioned, natural and beneficial floodplain values associated with the Project include, but are not limited to, natural beauty, plants, wildlife, water quality maintenance, and groundwater recharge. However, Alternative 2 (Build Alternative) would not result in any temporary or permanent effects on natural beauty and groundwater recharge, as discussed in Section 2.1, Land Use, Section 2.6, Visual and Aesthetics, Section 2.15, Natural Communities, Section 2.9, Water Quality and Storm Water Runoff, and Section 2.10, Geology/Soils/Seismic/Topography, respectively.

Temporary and/or permanent effects on natural and beneficial floodplain values associated with plants, wildlife, and water quality maintenance are further discussed below.

2.11.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), there would be no construction activities within the floodplain. Therefore, Alternative 1 (No-Build Alternative) would not result in any floodplain encroachment or effects on hydrology or natural and beneficial floodplain values.

Alternative 2 (Build Alternative)

Natural and Beneficial Floodplain Values

PLANTS

During construction, the Project has the potential to effect sensitive vegetation communities, such as Disturbed Buckwheat Scrub and Disturbed Riparian Scrub, which are both located within Wilson Creek. Effects on these vegetation communities may include dust, erosion, and stormwater and roadway runoff as a result of construction activities. Measures NC-1, NC-2, and NC-4 listed in Section 2.19, Natural Communities, would help minimize potential temporary effects on these vegetation communities. Measure NC-1 would entail delineating areas containing Disturbed Buckwheat Scrub and Disturbed Riparian Scrub and installing exclusionary fencing around such areas to prevent accidental encroachment. Measure NC-2 would implement Caltrans Standard

Special Provisions (SSP) 14-6.05, Invasive Species Control, and Measure NC-3 would require all equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities to occur within developed or designated non-sensitive upland (non-riparian) habitat areas.

In addition, Measure WQ-2 identified in Section 2.12, Water Quality and Storm Water Runoff, would require the Project to prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to all construction activities. The SWPPP would identify BMPs to control pollutants from entering channels to protect water quality and may include sediment control, soil stabilization, and the preservation of existing vegetation.

WILDLIFE

During construction, the Project may have temporary effects on wildlife species, which may include bats, BUOW, CAGN, SWFL, and LBVI.

Potential bat habitat exists within Wilson Creek, Wildwood Wash, and Yucaipa Creek under I-10. Effects on bat habitats and bats may occur during construction due to noise, lighting, exhaust, and vibration. A daytime bat habitat assessment performed for this Project did not result in the observation of any bats within Wilson Creek, Wildwood Wash, and Yucaipa Creek; however, bats can move into the area prior to construction. Measure AS-3, discussed in Section 2.22, Animal Species, would require the Project to perform preconstruction surveys to determine if there is a need for exclusion devices to ensure bats are not present prior to and during construction. If bats are present during the preconstruction surveys, Measure AS-4 would require that the Project develop and submit a bat management plan to CDFW to ensure no adverse effects on bats occur prior to and during construction.

BUOW suitable habitat was identified within a 500-foot endangered species buffer of the Project limits. There is a potential for indirect effects to occur on suitable BUOW habitat and foraging activities. Per Measure AS-2 in Section 2.21, Animal Species, BUOW preconstruction surveys would be required, and implementation of avoidance buffers would also be required if BUOW are found during the preconstruction surveys. With the implementation of Measure AS-2, it is anticipated that no temporary effects on BUOW would occur.

CAGN may be found within Disturbed Buckwheat Scrub, as it is considered suitable habitat for this species. Disturbed Buckwheat Scrub can be found in three patches around Wildwood Wash: two south of I-10 and one north of I-10. It is not anticipated that suitable habitat for either of these species is within the Project limits and immediate surrounding area. Direct effects on CAGN are anticipated to be minimal under Alternative 2 (Build Alternative). Indirect effects may occur on these species during construction from noise or dust that could potentially deter species from entering the

Disturbed Buckwheat Scrub. Implementation of Measures NC-1, NC-2, NC-4, and WQ-2 would minimize effects on Disturbed Buckwheat Scrub. In addition, Measure AS-1 requires that any native vegetation removal or tree trimming activities be conducted outside of the nesting bird season, while Measure TE-1 in Section 2.23, Threatened and Endangered Species, require preconstruction surveys for the CAGN.

SWFL and LBVI can occur within Disturbed Riparian Scrub. Although the field survey did not identify either of these species within the Project limits or surrounding area during a site visit, the Project could potentially result in indirect effects on foraging activities due to construction effects, such as noise and increased activity within Wilson Creek. Measures NC-1, NC-2, NC-4, AS-1, and TE-2 would minimize or avoid effects on these species by performing preconstruction surveys and limiting effects on potential suitable habitat in which SWFL and LBVI may be found.

Effects on Wilson Creek would result from construction access, geotechnical borings, and placement of new bridge footings to support widening of the bridge over Wilson Creek. These activities would result in temporary disturbance of Wilson Creek as a wildlife movement corridor. It is anticipated that construction activities at Wilson Creek would occur during the daytime and last approximately 4 months. Temporary falsework would be constructed at the base of the existing Wilson Creek Bridge but would not span the entire width of the bridge. This would allow wildlife continued use of Wilson Creek as a wildlife corridor throughout construction. It is anticipated that adverse temporary effects would not occur on wildlife corridors because the wildlife corridor would be maintained throughout construction.

WATER QUALITY MAINTENANCE

The Project would require heavy construction within the creek bed of Wilson Creek that could result in the resuspension and dispersal of fine-grained bottom sediments within the water column. In addition, construction activities adjacent to Wilson Creek could disturb soil and promote erosion of the channel banks. The erosion of soils could result in the transport of solid materials in surface runoff into the channel. Therefore, soil disturbance in and adjacent to Wilson Creek, and erosion of the channel banks and nearby areas, could result in increased turbidity and total suspended solids (TSS) during construction. In addition, oil, grease, and chemical pollutants from construction activities and vehicles could also enter Wilson Creek from accidental spills or from stormwater runoff. Compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (Measure WQ-1) and preparation and implementation of a SWPPP (Measure WQ-2) would minimize temporary effects on water quality.

The designated beneficial uses for Wilson Creek are MUN, GWR, REC1, REC2, WARM, and WILD. It is not anticipated that impacts would occur on the MUN or GWR beneficial uses, as there are no

municipal or domestic water supply reservoirs or groundwater percolation facilities within the Project limits. Temporary impacts on REC1 and REC2 beneficial uses would be minimized by the implementation of a TMP, which would include signage, detours, and public notices (Measure TR-1). Temporary impacts on WARM and WILD beneficial uses would be minimized by the implementation of Measures NC-1 through NC-4, Measure WET-1, Measures AS-1 through AS-4, and Measures TE-1 and TE-2. These measures would minimize impacts on sensitive plant and animal species.

Therefore, no substantial adverse temporary effects on water quality are anticipated.

Floodplains

According to the FEMA FIRMs, Wilson Creek, Yucaipa Creek, and Wildwood Wash are located within 100-year floodplains; however, construction activities are only anticipated to occur within Wilson Creek. Effects on Wilson Creek would result from construction access, geotechnical borings, and placement of new bridge footings to support widening of the bridge over Wilson Creek. During the plans, specifications, and estimates (PS&E) phase, exploration geotechnical bore holes would be drilled within Wilson Creek adjacent to the existing piers of Wilson Creek Bridge at a minimum depth of 50 feet bgs. The bore holes are required to ensure correct selection of foundation materials for the new pier structure of Wilson Creek Bridge. The geotechnical bore holes would be filled upon completion of the required drilling and are not anticipated to result in temporary effects on Wilson Creek or its floodplain.

Temporary falsework would be constructed at the base of the existing Wilson Creek Bridge but would not span the entire width of the bridge. The temporary falsework would be minor structures that would not be expected to substantially affect the floodplains in Wilson Creek and would be removed upon completion of construction.

2.11.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not change the operation of I-10 within the Project limits; therefore, Alternative 1 (No-Build Alternative) would not result in permanent adverse effects related to floodplain encroachment or effects on hydrology or on natural and beneficial floodplain values.

Alternative 2 (Build Alternative)

Under Alternative 2 (Build Alternative), the bridge at the I-10 crossing for Wilson Creek would be expanded in the median to accommodate the new TCL. The EB mainline bridge (Bridge No. 54-0648R) and the WB mainline bridge (Bridge No. 54-0648L) would be connected to fully cover Wilson Creek below I-10. A hydraulic analysis was conducted to calculate the level of risk at the

Wilson Creek crossing using an existing FEMA hydraulic model for Wilson Creek that modeled 100-year flood events (Caltrans 2018c). Based on the results of the hydraulic analysis, the new single bridge was found to have a freeboard distance of 3.1 feet from the bridge soffit and would be able to accommodate the increase in floodwaters. There is low impact on the hydraulics from the existing to proposed conditions, leading to low overtopping potential. A detailed survey of the Wilson Creek Channel and bridge configuration and soffit should be performed during the PS&E phase to verify the actual freeboard amount. The freeboard determination would not alter the floodplain analysis but would be required to be documented with the San Bernardino County Flood Control District for the encroachment permit process. The floodplain for Wilson Creek would remain within the current channel with the proposed conditions. In conclusion, the proposed improvements can be classified as low risk.

No additional hydraulic studies were performed for the Project, including at the bridge crossings for Yucaipa Creek and Wildwood Wash, because no changes to the bridge or culvert crossing at Yucaipa Creek and Wildwood Wash would be required. As a result, no change to base flood flow volumes and rates would occur, and no effects on floodplains associated with Yucaipa Creek and Wildwood Wash would occur.

Natural and Beneficial Floodplain Values

PLANTS

Alternative 2 (Build Alternative) would result in a permanent loss of 0.03 acre of Disturbed Riparian Scrub as a result of constructing the new bridge piers in Wilson Creek. However, access to the Wilson Creek Bridge during construction would occur through the I-10 median, which would result in fewer direct effects on the riparian habitat.

WILDLIFE

As previously mentioned, 0.03 acre of Disturbed Riparian Scrub would be permanently removed within Wilson Creek as a result of the Project. The loss of this vegetation under Alternative 2 (Build Alternative) would occur due to the implementation of the new bridge piers for Wilson Creek Bridge. Although this type of vegetation can provide a suitable foraging habitat for Swainson's hawk and LBVI, this portion of Disturbed Riparian Scrub within Wilson Creek is comprised of non-native, invasive plant species that does not provide substantial value as nesting or foraging habitat and is not considered a substantial adverse effect.

The Wilson Creek Bridge would increase the amount of potential roosting habitat for bats by providing an expanded new area of the bridge structure, which would allow additional roosting locations for bats.

Effects on Wilson Creek as a wildlife corridor would have no permanent adverse effects because the falsework required during construction would be removed upon construction completion. The new piers for Wilson Creek Bridge would be constructed near the existing pier locations, and the new structure would continue to allow wildlife crossing and maintain Wilson Creek as a wildlife corridor.

WATER QUALITY MAINTENANCE

Alternative 2 (Build Alternative) would result in an increase of new impervious area of approximately 7.3 acres, which would represent less than 0.001 percent of the San Timoteo Creek Watershed (Caltrans 2017b). During operation, the increase in impervious area would result in slight changes to peak flows and stormwater runoff volumes increasing the potential for erosion, sediment, and pollution in surface waters, which can contribute to a violation of water quality standards. Measure WQ-5 in Section 2.12, Water Quality and Storm Water Runoff, would require the Project to identify permanent treatment BMPs to treat the additional amount of stormwater runoff that would be generated from the increase in new impervious areas. Permanent treatment BMPs may include an infiltration area or basin to reduce the amount of pollutants from directly entering into surface waters crossing the Project limits. With the implementation of Measure WQ-5, it is anticipated that no permanent adverse effects on water quality would occur.

Floodplain Encroachment

The Project would not result in substantial changes or be inconsistent with the existing floodplain values of Wilson Creek. The Project's improvements would not adversely affect the floodplains or hydrologic function within Wilson Creek (Caltrans 2018c). Additionally, the Project would not require any changes in the mapped floodplain boundaries associated with Wilson Creek, Yucaipa Creek, and Wildwood Wash.

Alternative 2 (Build Alternative) would require encroachment within the 100-year floodplain in Wilson Creek but would not result in incompatible floodplain development. The hydraulic model analyzed for Alternative 2 (Build Alternative) demonstrates that the new single bridge within Wilson Creek would have sufficient vertical clearances and not cause any significant effects upstream of the bridge or under the bridge consistent with the require vertical clearance (Caltrans 2018c). Improvements to the Wilson Creek Bridge would have a minimal effect on floodplains and would not increase the extent of the floodplain. As a result, the floodplain for Wilson Creek would remain within its current channel under Alternative 2 (Build Alternative) and would not result in a substantial change in flood risk. Additionally, it is anticipated that Alternative 2 (Build Alternative) would not result in any adverse effects on the natural and beneficial floodplain values or termination of emergency services or emergency routes. Therefore, the Project would not constitute a significant floodplain encroachment as defined in 23 CFR 650.105(q) and is classified as minimal encroachment.

2.11.4 Avoidance, Minimization, and/or Mitigation Measures

With the implementation of Measures WQ-1 and WQ-2 in Section 2.12, Water Quality and Storm Water Runoff; Measures NC-1, NC-2, and NC-4 in Section 2.19, Natural Communities; Measure AS-1 through AS-4 in Section 2.22, Animal Species; and Measures TE-1 and TE-2 in Section 2.23, Threatened and Endangered Species, as well as HYD-1 listed below, no adverse temporary or permanent effects are anticipated to hydrology or floodplains.

HYD-1 During the PS&E phase, SBCTA and the Caltrans Resident Engineer team will complete a detailed survey of the Wilson Creek Channel and bridge configuration and soffit to verify the actual freeboard amount. The freeboard determination will not alter the floodplain analysis but will be required to be documented with the San Bernardino County Flood Control District for the encroachment permit process.

2.12 Water Quality and Storm Water Runoff

2.12.1 Regulatory Setting

2.12.1.1 Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

[1] A point source is any discrete conveyance such as a pipe or a man-made ditch.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in Section 2.20, Wetlands and Other Waters.

2.12.1.2 State Requirements

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

[2] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’ MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans’ MS4 Permit, Order No. 2012-0011-DWQ, NPDES No. CAS00003 (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective

January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed Project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ, NPDES No. CAS000002 (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

2.12.2 Affected Environment

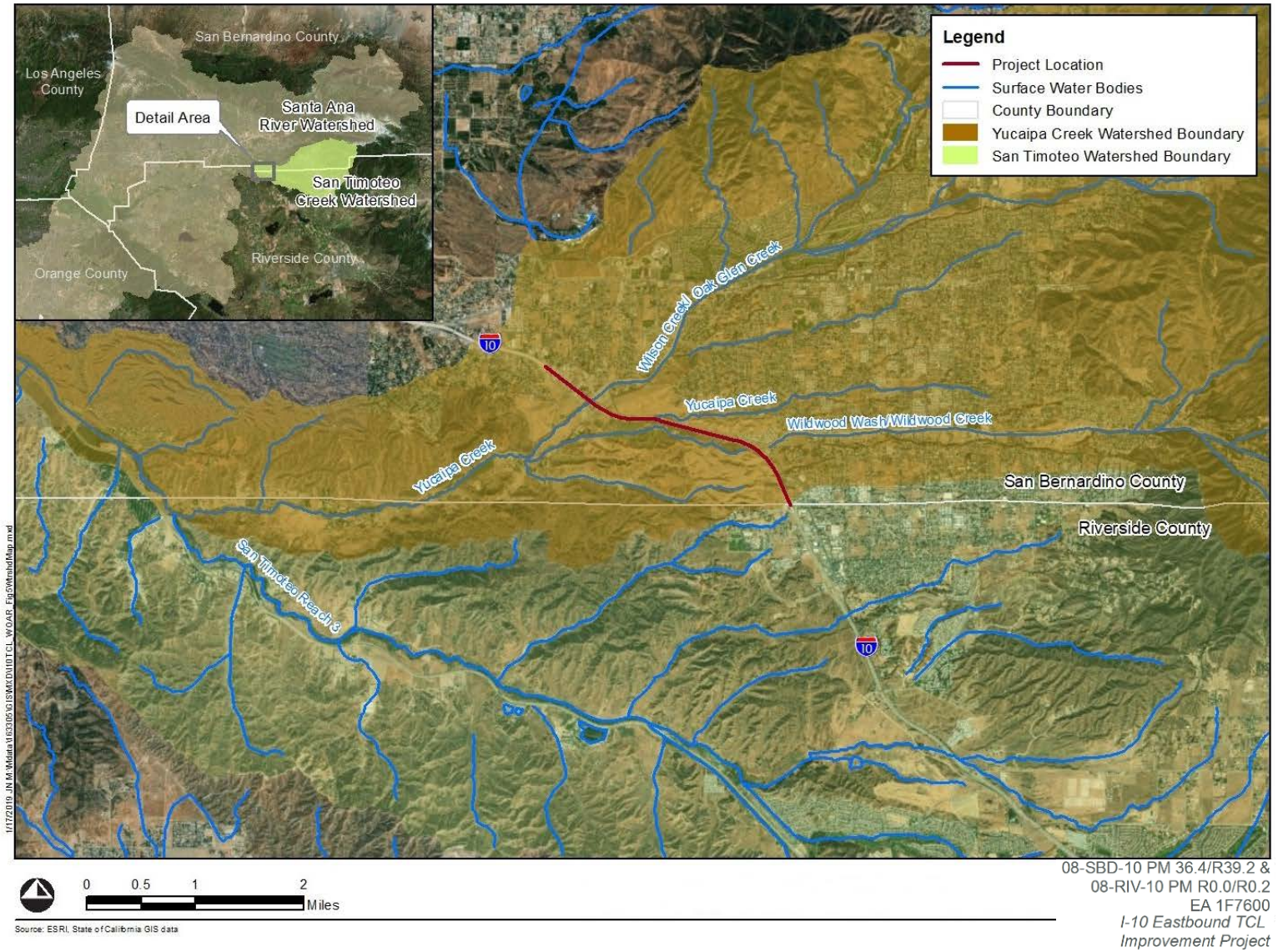
This section is based on the WQAR (Caltrans 2019e) and the *Storm Water Data Report* (Caltrans 2017b) prepared for the Project.

2.12.2.1 Regional and Local Hydrology

The Project discharges to Wilson Creek, Yucaipa Creek, and Wildwood Wash, which are located in the Yucaipa Creek Watershed. The Yucaipa Creek Watershed is a subwatershed in the San Timoteo Creek watershed, which is tributary to the Santa Ana River. The Project is located in the Santa Ana River hydrologic unit (801.0) and the San Timoteo hydrologic sub-area (801.61, 801.63, 801.66, and 801.67). The San Timoteo hydrologic sub-area is approximately 11 square miles. The San Timoteo Watershed is bound by the southeastern area of the San Bernardino Mountains (southwest of San Gorgonio Mountain), the western portion of the San Jacinto

Mountains, and the Badlands to the south. Runoff from these mountains and foothills drain through a network of surface streams and collects on the Yucaipa Valley floor and flows southwest and west via San Timoteo Creek toward the Santa Ana River. The Santa Ana River flows southwest from San Bernardino County through Riverside County and into Orange County toward the Pacific Ocean.

When stormwater falls on the existing road and highway system within the Project limits, it sheet flows toward existing overside drains and grate inlets, which transfer it to existing biofiltration swales and regional drainage systems. The only exception is the super-elevated roadway between Live Oak Canyon Road and Yucaipa Creek, which sheet flows to the center median. Ultimately, the stormwater that falls within the Project limits would primarily be discharged into Wilson Creek, Yucaipa Creek, and Wildwood Wash. Figure 2.12-1 shows the location of the Project within the watershed and the three surface waterbodies that cross the Project limits. The Project does not discharge directly or indirectly to an area of special biological significance.



08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.12-1. Project Watershed and Surface Waterbodies Map

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Surface Waters

The Basin Plan (California Water Boards 2019) identifies beneficial uses and water quality objectives for surface waterbodies in the Santa Ana RWQCB. The Basin Plan has identified numeric surface water objectives for Wilson Creek and Yucaipa Creek, which are presented in Table 2.12-1. The Basin Plan did not identify any numeric surface water objectives for Wildwood Wash. The water quality objectives designate allowable limits of water quality constituents or characteristics that allow for the reasonable protection of the surface water's beneficial uses. The beneficial uses for Wilson Creek, Yucaipa Creek, and Wildwood Wash consist of MUN, GWR, REC1, REC2, WARM, WILD, and/or RARE. Additional information on these beneficial uses for Wilson Creek, Yucaipa Creek, and Wildwood Wash is discussed in Section 2.11, Hydrology and Floodplain.

Table 2.12-1.Surface Water Numeric Objectives

Water Body Name	Constituent Name	Numeric Objective
Wilson Creek/Oak Glen Creek	Total dissolved solids	230 mg/L
	Hardness	125 mg/L
	Sodium	50 mg/L
	Chloride	40 mg/L
	Total inorganic nitrogen	3 mg/L
	Sulfate	45 mg/L
	Chemical oxygen demand	5 mg/L
Yucaipa Creek	Total dissolved solids	290 mg/L
	Hardness	175 mg/L
	Sodium	60 mg/L
	Chloride	60 mg/L
	Total inorganic nitrogen	6 mg/L
	Sulfate	45 mg/L

Table 2.12-1.Surface Water Numeric Objectives

Water Body Name	Constituent Name	Numeric Objective
	Chemical oxygen demand	15 mg/L

Source: Caltrans 2019e

Notes:

mg/L=milligram per liter

List of Impaired Waters

The U.S. EPA has created a 303(d) Program as a part of the CWA that assists states, territories, and authorized tribes in (1) submitting lists of impaired and threatened waters and (2) developing TMDLs based on the severity of the pollution and sensitivity of the waters. Impairment of waterbodies may be caused by water column exceedances, excessive sediment levels of pollutants, or bioaccumulation of pollutants. Yucaipa Creek, Wildwood Wash, and Wilson Creek are not listed on the 2014/2016 303(d) list of impaired waterbodies. However, Table 2.12-2 lists downstream impaired waterbodies that could potentially be impacted by the Project in their order of contact from the Project to the Pacific Ocean.

Table 2.12-2. Summary of 303(d) Listed Waterbodies and Impairments

Surface Water Body	Impairments
San Timoteo Creek, Reach 2	Indicator bacteria
San Timoteo Creek, Reach 1A	Indicator bacteria
Santa Ana River, Reach 4	Indicator bacteria
Santa Ana River, Reach 3	Copper, indicator bacteria, lead
Newport Slough	Indicator bacteria

Source: Caltrans 2019e

2.12.2.2 Groundwater

The Basin Plan (California Water Boards 2019) also identifies beneficial uses for groundwater resources in the San Timoteo and Yucaipa groundwater management zones located in the San Timoteo and Yucaipa Creek hydrologic units of the Upper Santa Ana River Basin, which is where the Project is located. The Basin Plan (California Water Boards 2019) has the following designated

beneficial uses for groundwater in the San Timoteo Creek and Yucaipa Creek groundwater management zones: MUN, AGR, IND, and PROC. Additional information on these beneficial uses for groundwater resources is discussed in Section 2.11, Hydrology and Floodplain.

2.12.3 Environmental Consequences

2.12.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), there would be no construction activities within the Project limits. Therefore, Alternative 1 (No-Build Alternative) would not result in any temporary adverse effects on water quality or stormwater runoff.

Alternative 2 (Build Alternative)

Short-term or temporary construction effects on water quality have the potential to occur during demolition, roadway, and bridge construction activities related to the Project. The total DSA for the Project is approximately 12.3 acres and would include the following soil disturbance activities during construction: installing temporary falsework in Wilson Creek, grubbing, grading, asphalt and concrete removal, upgraded drainage facilities, on-site runoff treatment areas, and paving activities. Construction activities would result in exposed soil, increasing the potential for soil erosion and effects on water quality. Soil erosion could also occur at an accelerated rate during a storm event. Construction equipment and employee vehicles could also inadvertently track sediment from the Project site onto adjacent roadways that could potentially be conveyed to stormwater drainage systems. Other pollutants that can impact water quality during construction activities include sediment, metals, trash, concrete waste (dry and wet), sanitary waste, and chemicals, including gasoline, oils, grease, solvents, lubricants, and other petroleum products.

Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. The Project would comply with the requirements as stated in the Caltrans NPDES Statewide Storm Water Permit and NPDES Construction General Permit (Measure WQ-1), which would include preparation of an SWPPP and implementation of erosion and sediment control BMPs that would be detailed in the SWPPP during construction (Measure WQ-2). With the implementation of construction BMPs, no adverse water quality effects would occur during Project construction.

Dewatering is not anticipated during construction of the Project. In the event that groundwater and any other non-stormwater dewatering activities are necessary, these activities are subject to the

requirements of the Santa Ana RWQCB, which would include a dewatering permit, waste discharge requirements, and dewatering BMPs (Measure WQ-3).

The Project would require regulatory permits from USACE (Section 404), the Santa Ana RWQCB (Sections 401 and 402), and CDFW (1602 Streambed Alteration Agreement) for the required work within Wilson Creek and drainage system improvements. Additional information on these regulatory permits is discussed in Section 2.19, Wetlands and Other Waters.

Physical/Chemical Characteristics of the Aquatic Environment

Potential short-term impacts on the aquatic environment may include temporary increases in sediment, oil, grease, and chemical pollutants during construction. Chemical pollutants anticipated for use during construction include gasoline, oils, grease, solvents, lubricants, and other petroleum products. Many petroleum products contain a variety of toxic compounds and impurities, which tend to form oily films on the water surface, thereby altering oxygen diffusion rates. Concrete, soap, trash, and sanitary wastes are other common sources of potentially harmful materials on construction sites. Wash water can easily introduce pollutants to surface waters or seep into groundwater. Also, construction chemicals may be accidentally spilled into nearby storm drains or watercourses. The impact of toxic construction-related materials on water quality would vary, depending on the quantity spilled.

In addition, under Alternative 2 (Build Alternative), work within the Wilson Creek river bed would be required to widen the existing bridge. Activities within the Wilson Creek river bed would temporarily change the physical characteristics of the aquatic environment. These activities may include, but are not limited to, pile driving, construction of pile caps, and construction of pier wall extensions. In addition, a stream diversion would be required along with a temporary drainage system while the work in the river bed is performed.

Avoidance and minimization measures, such as implementation of erosion and sediment control BMPs during construction, would prevent sediment and suspended solids from entering into surface waters or minimize the amount of sediment and suspended solids. In addition, implementation of non-stormwater management and material management BMPs during construction would prevent chemical pollutants, such as concrete waste, from entering surface waters or minimize the amount of chemical pollutants. These BMPs would involve keeping a clean, orderly construction site. Non-stormwater management BMPs are source-control BMPs that prevent pollution by limiting or reducing potential pollutants at their source or eliminating off-site discharges. Non-stormwater management BMPs also include procedures and practices that have been designed to minimize or eliminate the discharge of pollutants from vehicle and equipment cleaning, fueling, and maintenance operations to stormwater drainage systems or watercourses. Further, waste management BMPs

consist of implementing procedural and structural BMPs for handling, storing, and disposing of wastes generated by a construction project to prevent the release of waste materials into stormwater runoff or discharges through proper management of the waste. These BMPs are intended to prevent the release of pollutants during stormwater and non-stormwater discharges and would be included in the SWPPP (Measure WQ-2). Compliance with the Caltrans NPDES Statewide Storm Water Permit and NPDES Construction General Permit (Measure WQ-1) and implementation of the SWPPP (Measure WQ-2) would minimize the potential for construction-related surface water pollution and ensure that water quality in Wilson Creek would not be compromised by erosion, sedimentation, or chemical pollutants during construction.

2.12.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not change the operation of I-10 within the Project limits; therefore, Alternative 1 (No-Build Alternative) would not result in permanent adverse effects related to water quality or stormwater runoff.

Alternative 2 (Build Alternative)

The Project would result in a permanent increase in impervious surface area of approximately 7.3 acres, which is less than 0.001 percent of the San Timoteo Creek Watershed. The additional increase in impervious surface area would increase the runoff from I-10 within the Project limits. This increase in impervious area would result in peak flows and runoff volumes, increasing the potential for erosion, sediment, and pollution in surface waters. Pollutants in runoff from the widened roadway would include sediment, oils and grease, and metals, similar to the contaminants from the existing I-10. The introduction of substantial amounts of additional pollutants in stormwater runoff could contribute to a violation of water quality standards. However, the Project would include upgrading existing drainage facilities and incorporating on-site treatment areas to manage the increase in runoff. In addition, the Project would include design pollution prevention BMPs to minimize water quality impacts, such as preservation of existing vegetation and slope/surface protection systems (benching/terracing, slope rounding, reducing gradients [incorporate 4:1 slopes or flatter]) (Measure WQ-4).

Targeted design constituents are defined in the Caltrans NPDES Permit as pollutants that are expected to be generated by the Project, which may “cause a condition of pollution or nuisance due to the discharge of excessive amounts, proximity to receiving waters,” its properties, or may cause the impairment of CWA Section 303(d) listed receiving waters. The targeted design constituents that would be generated by the Project include copper, lead, zinc, and selenium. Each of these pollutants

on its own or in combination with other pollutants can have a detrimental effect on water quality. However, the Project would include treatment control BMPs that may include design pollution prevention infiltration areas (DPPIA), infiltration devices, biofiltration strips and swales, detention devices, media filters, multi-chambered treatment train (MCTT), wet basin, and/or pervious pavement (Measure WQ-5).

According to the *Storm Water Data Report* (Caltrans 2017b), an infiltration basin and two DPPIAs are proposed as treatment control BMPs for the Project and would be implemented within Caltrans ROW. The proposed infiltration basin would be located south of I-10, slightly east of Wildwood Wash, and would treat a drainage area of approximately 4.4 acres. The two proposed DPPIAs, identified as DPPIA West and DPPIA East, would be located south of I-10, slightly west and east of the Wildwood rest area, respectively, and would treat a drainage area of approximately 2.9 acres. It is anticipated that these Project treatment control BMPs would be able to accommodate and treat 100 percent of the additional runoff created by the new impervious area within the Project limits and would be confirmed during the PS&E phase.

With the implementation of design pollution prevention BMPs and treatment control BMPs, no adverse water quality impacts would occur during long-term operation of the Project.

2.12.4 Avoidance, Minimization, and/or Mitigation Measures

With the implementation of Measures WQ-1 through WQ-5 identified below, no adverse temporary or permanent impacts are anticipated to water quality and stormwater runoff.

WQ-1 During construction, SBCTA and the Caltrans Resident Engineer will ensure the Project complies with the provisions of the Caltrans NPDES Statewide Storm Water Permit (Order No. 2012-0011-DWQ, NPDES No. CAS00003, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, Order WQ 2015-0036-EXEC, and Order WQ 2017-0026-EXEC, NPDES No. CAS000003) and the NPDES General Permit for Storm Water Discharges of Stormwater Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ), and any subsequent permit in effect at the time of construction.

WQ-2 Prior to construction, SBCTA and the Caltrans Resident Engineer will ensure an SWPPP is prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP will identify the sources of pollutants that may affect the quality of stormwater and include the construction site BMPs to control pollutants such as sediment control, catch basin inlet

protection, construction materials management, and non-stormwater BMPs. Additional BMP reference material is contained within the *Project Planning and Design Guide* (Caltrans 2019m) and *Construction Manual* (Caltrans 2019n). These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.

WQ-3 If dewatering is required during construction, SBCTA and the Caltrans Resident Engineer will ensure the Project's construction site dewatering complies with the General Waste Discharge Requirements for Discharges to Surface Waters That Pose an Insignificant (*De minimis*) Threat to Water Quality (Order No. R8-2015-0004, NPDES No. CAG998001) and any subsequent updates to the permit at the time of construction. This permit addresses temporary dewatering operations during construction. Dewatering BMPs must be used to control sediment and pollutants, and the discharges must comply with the WDR issued by the Santa Ana RWQCB.

WQ-4 During construction, SBCTA and the Caltrans Resident Engineer will ensure the Project design pollution prevention BMPs will be implemented, such as preservation of existing vegetation, slope/surface protection systems (benching/terracing, slope rounding, reducing gradients [incorporate 4:1 slopes or flatter]).

WQ-5 During the PS&E phase, SBCTA and Caltrans will ensure Caltrans-approved treatment BMPs will be implemented consistent with the requirements of NPDES Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No.CAS00003, and any subsequent permits in effect at the time of construction. Treatment BMPs may include DPPIA, infiltration devices, biofiltration strips and swales, detention devices, media filters, MCTT, wet basin, open graded friction course, and pervious pavement.

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2.13 Geology/Soils/Seismic/Topography

2.13.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Caltrans' Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see Caltrans' Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

2.13.2 Affected Environment

This section is based on the *Draft Preliminary Geotechnical Report* (DPGR) (Caltrans 2019o) and the *Structure Preliminary Geotechnical Report* (SPGR) (Caltrans 2018e) prepared for the Project, as well as the *City of Yucaipa General Plan* (City of Yucaipa 2016), *City of Calimesa General Plan* (City of Calimesa 2014), and *San Bernardino County General Plan* (San Bernardino County 2010).

2.13.2.1 Topography

The Project limits extend from the southern edge of San Bernardino County in the City of Yucaipa into the northern portion of the County of Riverside within the City of Calimesa, California. The general topography within the Project limits and the surrounding area is characterized as rolling hills on the southern margin of Yucaipa Valley. The topography generally slopes down to and drains toward Wildwood Creek, with Wilson Creek and Yucaipa Creek as tributaries. Wildwood Wash drains roughly parallel to I-10 on the south side of the freeway. An earthen embankment supporting I-10 is present on the north side of the freeway from approximately Calimesa Boulevard and Wildwood Canyon Road to the west extending just past Wilson Creek to the east. Elevations within the Project limits range from approximately 2,031 feet to 2,390 feet above mean sea level generally climbing EB. However, the lowest elevation point within the Project limits is at Wilson Creek at approximately 2,015 feet above mean sea level. There are no substantial slopes adjacent to the Project limits other than cut slopes as high as 50 feet, cut into Quaternary San Timoteo Formation bedrock that ascend from the shoulder to the southwest of EB I-10, along the eastward I-10 segment

southeast of Wildwood Wash. EB I-10 grades are similar or at the same elevation as adjacent WB I-10 grades, with sustained upward slope grades in excess of 3.5 percent in the EB direction. The slopes within the Project limits, as well as those surrounding the Project limits, are classified as very gentle (2 to 5 percent grade) to gentle slopes (5 to 9 percent grade). There are near-vertical erosion gullies in Wildwood Creek just south of I-10, but they stabilize at the I-10 crossing with rip-rap.

2.13.2.2 Regional Geology

The Project is located within the Yucaipa 7.5' quadrangle located at the southeastern margin of the San Bernardino Basin, just south of the Crafton Hills Fault Zone within an area locally known as the Yucaipa Graben Complex (Caltrans 2019o). The alignment is generally within the northeastern portion of the Peninsular Ranges Geomorphic Province of California, with the San Bernardino Mountains to the southwest. Right lateral movement of the San Andreas and San Jacinto Fault Zones have created a system of extensional faults within the San Bernardino area providing low hills, such as the Crafton Hills, which formed within the alluvial basin. The Bunker Hill-San Timoteo Basin is the depositional basin receiving sediments from the San Bernardino Mountains to the north along a system of southwest-flowing drainages. These alluvial fan deposits, consisting of clays, silts, sands, gravel, cobbles, and boulders, were dated as 1.8 million years and younger, underlain by pre-Tertiary age crystalline bedrock. The Project limits are underlain by interwoven rock formations consisting of very young to young alluvial deposits to old and very old alluvial deposits, as well as the San Timoteo Formation. The San Timoteo Formation has been recorded to have high sensitivity for paleontological resources and is further discussed in Section 2.14, Paleontology.

2.13.2.3 Soil Conditions

Based on preliminary geotechnical information from the DPGR (Caltrans 2019o) and SPGR (Caltrans 2018e), in general, the Project limits consist of soils that are primarily silty sands with coarser young alluvium within Wilson Creek, Yucaipa Creek, and Wildwood Wash, and less permeable terrace deposits on the east and west end of the Project limits in hills away from the washes. Hydrologic soil groups (HSG) were obtained using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) online Websoil Survey Mapping Program. HSGs are categorized by soil runoff potential, which range from Group A (low runoff potential and rapid to very rapid subsoil permeability) to Group D (high runoff potential and very slow subsoil permeability). The majority of the Project limits consist of Handford and San Emigdio soils, which are designated as HSG A, indicating that a majority of the Project limits has low runoff potential.

Some fill soils along the Project alignment may be relatively corrosive as indicated from past soil corrrosivity test results in 2006 for the Live Oak Canyon Road Overcrossing (Bridge 54-1291). According to the Caltrans Corrosion Guidelines Version 2.1 (Caltrans 2018e), soils are considered

corrosive if the potential of hydrogen (pH) is 5.5 or less, or chloride concentration is 500 parts per million (ppm) or greater, or sulfate concentration is 2,000 ppm or greater. For the 2006 soil corrosivity test results, one boring location was found to have a chloride concentration of 812 ppm, indicating there are corrosive soils (Caltrans 2018e).

2.13.2.4 Surface Waters

Surface waters within the Project limits consist of Yucaipa Creek, Wildwood Wash, and Wilson Creek. The Project drains to these three unlined water channels. Wilson Creek and Yucaipa Creek are tributaries to Wildwood Wash, which ultimately drains to the Santa Ana River. Yucaipa Creek, Wildwood Wash, and Wilson Creek are not listed on the 2014/2016 303(d) list of impaired water bodies. In addition, these three water channels are located within 100-year floodplains. Additional information on floodplains and surface waters are discussed in Section 2.11, Hydrology and Floodplain, and Section 2.12, Water Quality and Stormwater Runoff, respectively.

2.13.2.5 Groundwater

According to the DPGR (Caltrans 2019o), Caltrans boring logs from the 1961 as-built plans for the Wilson Creek Bridge had reported that groundwater was encountered at 20 feet bgs within the Wilson Creek bed. In addition, according to the California Department of Water Resources, Water Data Library, a local water well located approximately 0.31 mile northwest of the intersection of Wildwood Canyon Road/Calimesa Boulevard had identified groundwater at approximately 152 feet bgs (Local Well “Hog Canyon #2”, State Well Number 02S02W10B002S, groundwater data collected on June 4, 2019). Therefore, along much of the Project limits, groundwater is not expected to be encountered, except immediately after heavy rain. However, relatively shallow groundwater should be expected within creek beds. Groundwater levels within the Project limits are expected to fluctuate due to changes in upstream groundwater basin levels and flood control management, as well as seasonal flows in the creeks and washes, up-gradient development, nearby construction, irrigation, and numerous other artificial and natural influences.

2.13.2.6 Geologic Hazards

Seismicity

The Project is located in seismically active Southern California and, as a result, the most substantial geologic hazard to the Project is the potential for moderate to strong ground shaking resulting from both local and distant earthquakes.

The Project is located between two significantly active and converging faults: the San Andreas Fault and the San Jacinto Fault. The San Andreas Fault is located approximately 5.5 miles to the

northeast and is the most active known surface fault in California and is capable of large magnitude earthquakes (the largest recorded was 7.9 magnitude; however. the fault is capable of producing larger magnitudes). The San Jacinto Fault Zone is located approximately 5 miles to the southwest and is also capable of large magnitude earthquakes (up to 7.7 magnitude) (Figure 2.13-1). Additionally, the Chicken Hill Fault is located directly north (less than 1 mile) of the Project limits and runs relatively parallel to Live Oak Glen Road. In addition, a portion of the Project limits is located within the designated State of California Alquist-Priolo Earthquake Fault Zone and is associated with the Crafton Hills Fault Zone (Chicken Hill Fault) (Figure 2.13-2). A historical seismicity map of recorded earthquakes within the Project region between 1769 and 2014 is provided on Figure 2.13-3. Table 2.13-1 summarizes major faults identified within and surrounding the Project limits.

According to the City of Yucaipa's General Plan Public Safety Chapter (City of Yucaipa 2016), the northern portion of the Project limits is subject to severe ground shaking due to fault ruptures along many of its active faults. The *City of Calimesa General Plan* (City of Calimesa 2014) does not identify any active or mapped faults within or near the Project limits. However, the City of Calimesa identifies earthquakes or seismic activity as one of the greatest potential hazards for the City of Calimesa.

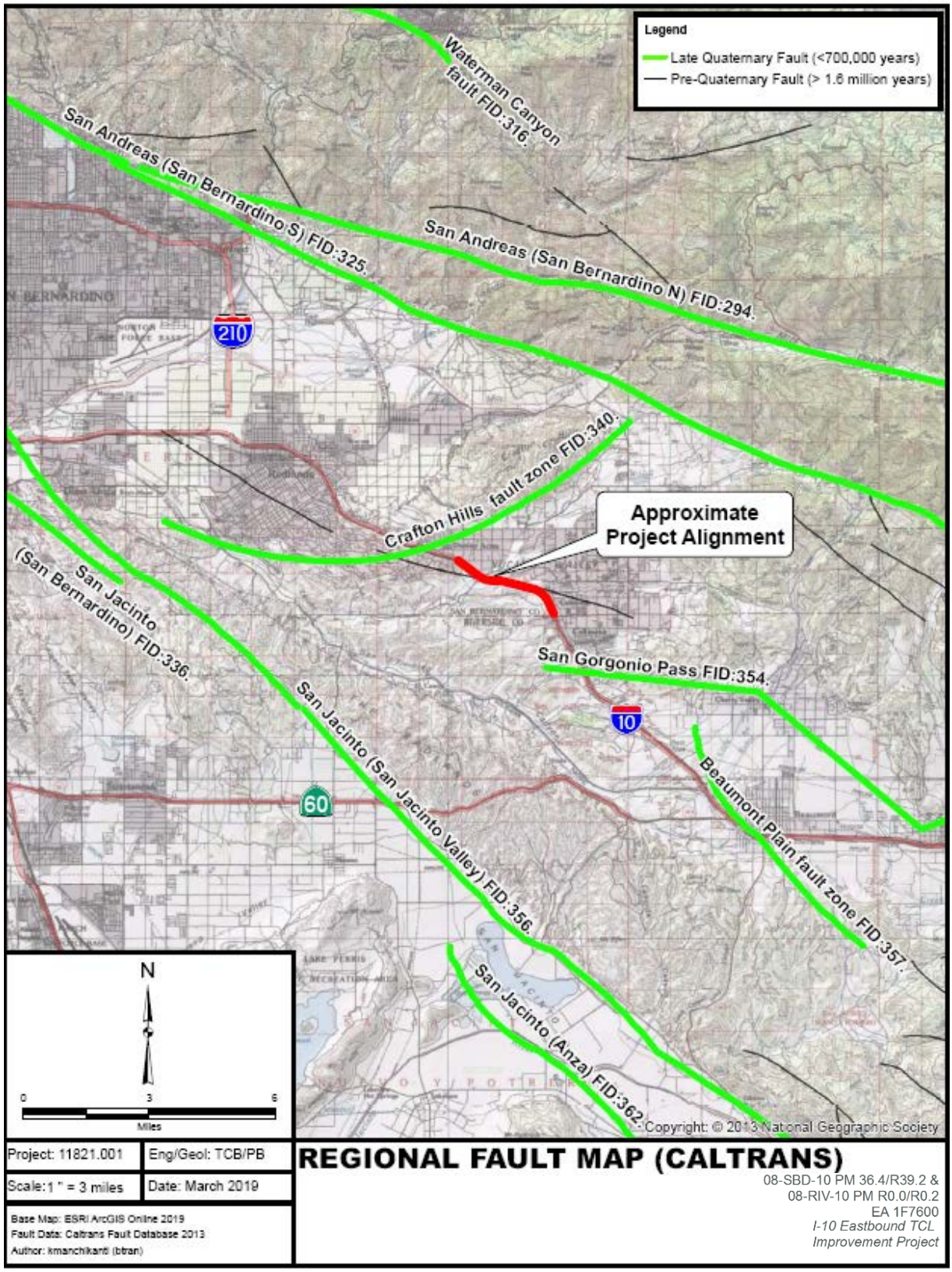


Figure 2.13-1. Regional Fault Map

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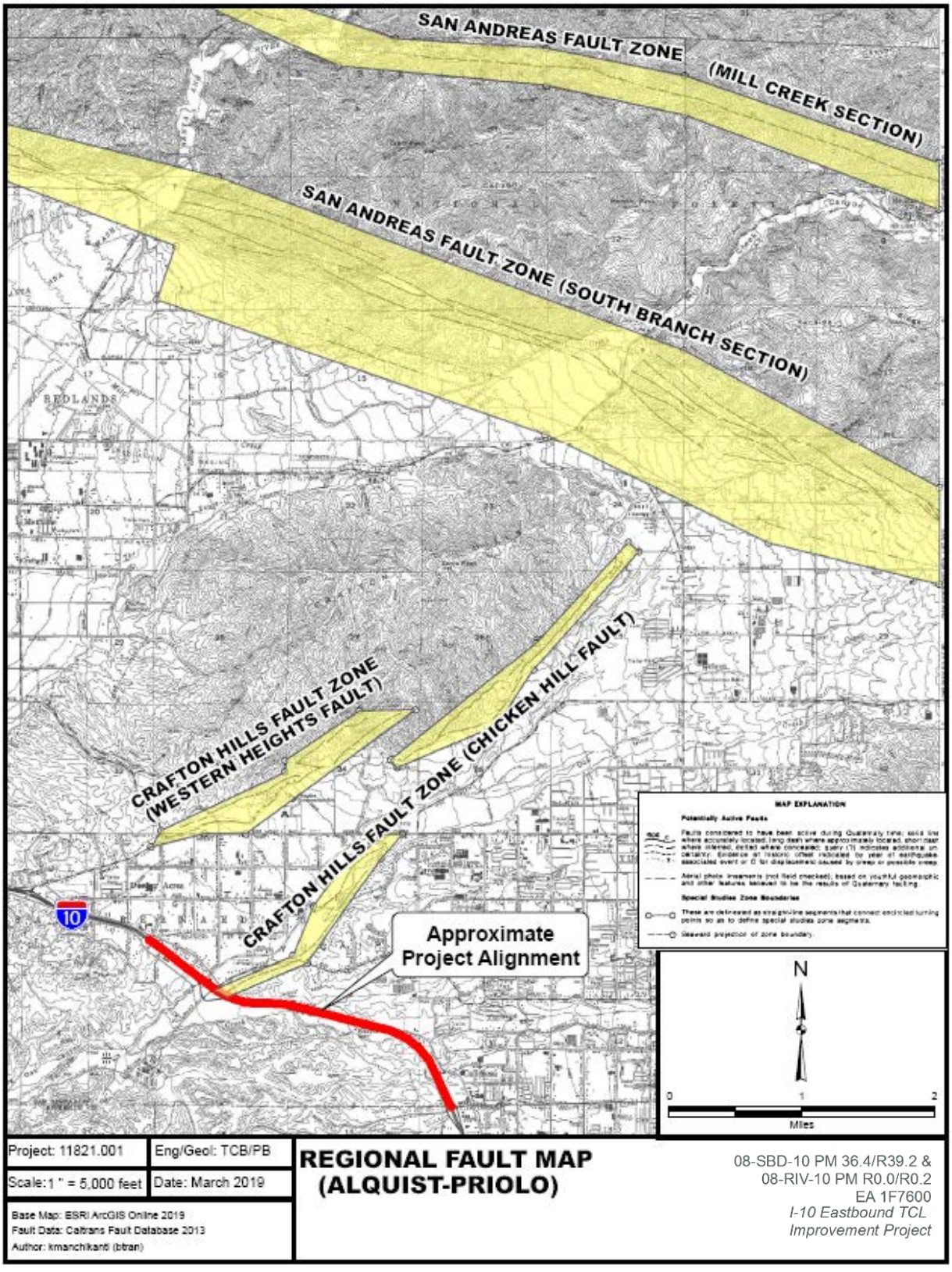


Figure 2.13-2. Alquist-Priolo Earthquake Fault Zone

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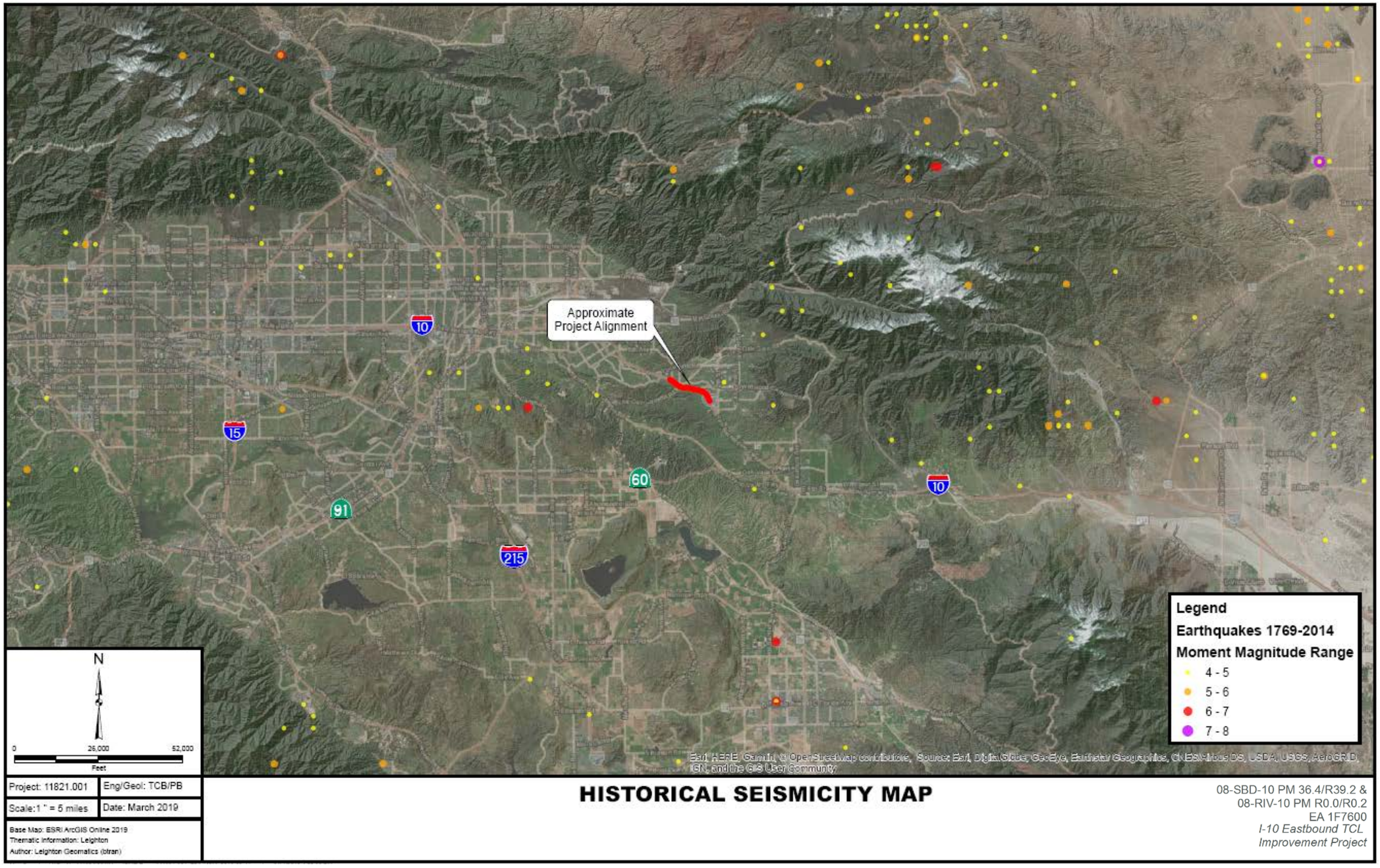


Figure 2.13-3. Historical Seismicity Map

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Table 2.13-1. Earthquake Faults

Fault Name	Caltrans FID	Style of Fault[a]	Maximum Magnitude	Distance (Miles)
San Andreas, San Bernardino North	294	Strike-slip	7.4	5.6
San Andreas, San Bernardino South	325	Strike-slip	7.9	5.5
San Jacinto, San Jacinto Valley	356	Strike-slip	7.7	5.2
San Jacinto, San Bernardino	336	Strike-slip	7.7	5.3
San Jacinto Fault Zone	385	Strike-slip	7.7	8.5
San Gorgonio Pass	354	Reverse	6.7	2.6
Crafton Hills Fault Zone	340	Normal	6.4	<1
Chicken Hill Fault	340	Normal	6.4	<1

Source: Caltrans 2019o

Notes:

[a] Strike-slip =A fault that moves horizontally, or parallel to the fault line; Normal =A fault that moves vertically; Reverse =A fault that is caused by two plates pushing into each other

Caltrans=California Department of Transportation; FID=Fault ID

Liquefaction

Liquefaction is the loss of the strength or cohesion of soil. This can occur on young, loose, unconsolidated sediments, associated with primarily loose (low density), saturated, fine- to medium-grained, cohesionless soils. For liquefaction to occur, the following three conditions must occur simultaneously at a site: (1) shallow groundwater; (2) loose to medium dense cohesionless soils; and (3) sustained ground shaking.

According to the City of Yucaipa General Plan Public Safety Chapter (City of Yucaipa 2016), the area within the Project limits north of the San Bernardino/Riverside County line is typically not susceptible to liquefaction. Additionally, according to the City of Calimesa General Plan Safety Chapter (City of Calimesa 2014), the southern portion of the Project limits has a very low susceptibility to liquefaction.

Landslides

According to the *City of Yucaipa General Plan* (City of Yucaipa 2016), the area between Wildwood Wash and North County Line Road along I-10 is considered to be generally susceptible to landslides. In addition, according to the DPGR (Caltrans 2019o), there is a low risk level for landslides within the Project limits, as there are cut slopes as high as 50 feet in the San Timoteo Formation ascending from the shoulder to the southwest of EB I-10, along the eastward I-10 segment southeast of Wildwood Wash.

Tsunamis and Seiches

A tsunami, or seismically generated sea wave, is generally created by a large, distant earthquake occurring near a deep ocean trough. A seiche is an earthquake-induced wave in a confined body of water, such as a lake or reservoir. There are no confined water bodies located within or adjacent to the Project limits, and the Pacific Ocean is located over 50 miles west of the Project limits.

2.13.2.7 Minerals and Natural Landmarks

According to the *City of Yucaipa General Plan* (City of Yucaipa 2016) and City of Calimesa *General Plan* (City of Calimesa 2014), the Project limits do not contain any natural landmarks or mineral resources. However, according to the *San Bernardino County General Plan* (San Bernardino County 2010), an area within the Project limits, north of County Line Road, is designated as Mineral Resource Zone (MRZ) 3, which is defined as areas containing inferred mineral deposits that may qualify as mineral resources but has not been confirmed.

2.13.3 Environmental Consequences

2.13.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

No improvements would occur under Alternative 1 (No-Build Alternative); therefore, no temporary effects related to geology, soils, seismicity, or topography within the Project limits would occur.

Alternative 2 (Build Alternative)

Alternative 2 (Build Alternative) would alter existing landforms because of grading and construction activities. Construction activities may also temporarily disturb soil within the Project limits, primarily in work areas, heavy equipment traffic areas, and material laydown areas. Temporary effects would include soil compaction and increased potential of soil erosion. The construction contractor would be required to adhere to the requirements of the NPDES General Construction Permit, which would include implementing erosion and sediment control BMPs specifically identified in the Project

SWPPP to prevent sediment from moving off site into receiving waters and impacting water quality. Refer to Section 2.12, Water Quality and Storm Water Runoff, for additional information regarding construction-related water quality issues, as well as BMP measures to minimize these effects.

The construction activities associated with Alternative 2 (Build Alternative) could be affected by ground motion, liquefaction, and possibly ground deformation if an earthquake event were to occur during construction. However, implementation of safe construction practices and compliance with Caltrans and California Division of Occupational Safety and Health Administration (Cal-OSHA) requirements would reduce potential exposures of workers and the public to these hazards during construction. Based on the avoidance and minimization measures identified within Section 2.12, Water Quality and Storm Water Runoff, and compliance with standard Caltrans and Cal-OSHA requirements, temporary effects related to soil compaction and erosion, ground motion, liquefaction, and potential ground deformation during construction activities would be not be considered adverse.

2.13.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

No improvements would occur under Alternative 1 (No-Build Alternative). Therefore, no permanent effects related to geology, soils, seismicity, or topography within the Project limits would occur.

Alternative 2 (Build Alternative)

Seismic Ground Shaking and Ground Surface Fault Ruptures

The Project is located within a seismically active region subject to future moderate to strong seismic ground shaking from earthquakes occurring along regional and local faults. The San Andreas Fault and San Jacinto Fault are located within the Project limits and surrounding area and have been documented as producing earthquakes with a magnitude of 7.9 and 7.7, respectively. In addition, a portion of the Project limits is located within the designated State of California Alquist-Priolo Earthquake Fault Zone and is associated with the Crafton Hills Fault Zone (Chicken Hill Fault). Direct and indirect effects related to seismic shaking may include ground deformation; including fissures, settlement, displacement, and loss of bearing strength; and are among the leading causes of damage to structures during moderate to strong earthquakes.

According to the DPGR (Caltrans 2019o), fault investigation studies were conducted in 2007 and 1988 for two nearby development projects located southwest of I-10/Live Oak Canyon Road interchange and northeast of the I-10/Oak Glen Road interchange, respectively. The 2007 fault study did not find evidence of active faulting; however, the 1988 fault study did find traces of the Chicken Hill Fault that appeared to be active but did not trend toward the proposed Wilson Creek Bridge.

Although strong ground shaking is expected along the Project limits, based on the review of past fault investigation studies, the DPGR (Caltrans 2019o) determined the possibility that ground surface fault ruptures and deformation at and/or through the proposed Project limits is low.

The Project would include preparation of a final geotechnical report, which would include geotechnical exploratory boring activities to confirm soil types and geologic conditions to address any potential effects related to soils, liquefaction, and seismic activity during final design (Measure GEO-1). In addition, a Project-specific design-level geotechnical report would be prepared prior to the completion of final design to ensure soil related constraints are known and incorporated into Project design (Measure GEO-1).

The Project would be designed and constructed based on the recommendations from the geotechnical report and in accordance with applicable federal, state, and local seismic codes and Caltrans HDM and Caltrans SDC for structures. With the implementation of Measure GEO-1 and compliance with seismic codes and design criteria for structures, no adverse permanent effects related to seismic ground shaking or ground surface fault ruptures are anticipated.

Liquefaction and Lateral Spreading

The potential for liquefaction to occur within the Project limits is considered to be low per the *City of Yucaipa General Plan* (City of Yucaipa 2016) and City of Calimesa *General Plan* (City of Calimesa 2014), as well as the DPGR (Caltrans 2019o) and SPGR (Caltrans 2018e). The Project includes widening the Wilson Creek Bridge by combining the two existing mainline bridges by filling the center median, roughly 20 feet wide, with three cast-in-place “T”-beams. Shallow groundwater and young alluvium deposits are anticipated within all creeks and washes that cross the Project limits, including Wilson Creek. Seasonal shallow groundwater is anticipated within the creeks and washes; however, only two of three contributing factors creating susceptibility to liquefaction are potentially present within the Project limits. It is anticipated, consistent with the general plans, that there is a low potential for liquefaction and lateral spreading to occur within the Project limits. Due to work within Wilson Creek and the potential for seasonal groundwater, the potential for liquefaction and lateral spreading will be further investigated during final design (Measure GEO-1).

Landslides

There is a low risk level for landslides within the Project limits, as there are cut slopes as high as 50 feet in the San Timoteo Formation ascending from the shoulder to the southwest of EB I-10, along the eastward I-10 segment southeast of Wildwood Wash (Caltrans 2019o). However, there is no indication of deep-seated instability of these cuts into the San Timoteo Formation. The Project would not result in any additional cuts into these formations, no adverse effects related to

landslides are anticipated to occur under Alternative 2 (Build Alternative). The potential for landslides would be further investigated during final design (Measure GEO-1).

Topography, Geology and Soils

Alternative 2 (Build Alternative) would not result in substantial permanent changes in the topography or geology within and surrounding the Project limits because improvements are anticipated to be constructed at the same grade, or close to, as the existing transportation facility. The existing topography and geology setting within the Project limits is compatible with the proposed improvements based on preliminary geotechnical information. The Project would be designed and constructed to meet all required federal, state, and local standards and specifications for highway design. No adverse effects on the existing topography or geology setting are anticipated. In addition, the Project would be compatible with the existing visual setting of the area, as further discussed in Section 2.9, Visual and Aesthetics.

Further information on soils conditions within the Project limits is provided below.

Compressible/Collapsible Soils

During construction, the Project is anticipated to encounter predominately fill, young alluvium, and some San Timoteo Formation during excavation activities. The fill and young alluvium are soil types that may be compressible and collapsible. The roadway fills, bridge foundations, and associated structures could result in settlement of soils. Differential settlement of soils could damage Project improvements, including concrete structures and foundations, as well as pavements. The potential for subsurface soils to compress, collapse, or settle would be further investigated during final design (Measure GEO-1).

Expansive Soils

Expansive soils generally result from specific clay minerals that have the capacity to shrink or swell in response to changes in moisture content. Sandy soils are generally not expansive. Expansive soils are characterized by their ability to undergo substantial volume change (shrink or swell) because of variations in moisture content. Changes in soil moisture content can result from rainfall, irrigation, pipeline leakage, surface drainage, perched groundwater, drought, or other factors. The change in volume of expansive soil may cause excessive cracking and heaving of structures with shallow foundations, concrete slabs, or pavements supported on these materials. The Project limits consist of soils that are primarily silty sands with coarser young alluvium within Wilson Creek, Yucaipa Creek, and Wildwood Wash and less permeable terrace deposits on the east and west end of the Project limits in hills away from the washes. Therefore, adverse impacts associated with

expansive soils under Alternative 2 (Build Alternative) are not anticipated. However, the potential for expansive soils would be further investigated during final design (Measure GEO-1).

Corrosive Soils

Some fill soils along the Project alignment may be relatively corrosive as indicated from past soil corrosivity test results in 2006 for the Live Oak Canyon Road Overcrossing (Bridge 54-1291). A site-specific corrosion study would be performed during final design, and recommendation measures would be provided if the soils are found to be corrosive to concrete or steel (Measure GEO-1).

Tsunamis and Seiches

Damage from tsunamis is typically confined to coastal areas. The Project is located over 50 miles east of the Pacific Ocean. Additionally, there are no confined large bodies of water within the vicinity of the Project limits, such as a lake or reservoir. Therefore, no adverse effects from tsunamis, seiches, or inundation are anticipated to occur under Alternative 2 (Build Alternative).

Mineral Resources and Natural Landmarks

An area within the Project limits, north of County Line Road, is designated as MRZ 3, per the *San Bernardino County General Plan* (San Bernardino County 2010), which is defined as an area containing inferred mineral deposits that may qualify as mineral resources but has not been confirmed. It is not anticipated that the Project would encounter mineral resources during construction because the only known mineral resources that have been identified are located approximately 5 miles north of the Project limits per the *San Bernardino County General Plan* (San Bernardino County 2010). The potential for encountering mineral resources would be further investigated during final design (Measure GEO-1).

No natural landforms are located within the Project limits and, as a result, no adverse effects are anticipated on natural landforms under Alternative 2 (Build Alternative).

2.13.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures are recommended to reduce the potential effects related to geologic, soil-related, seismic, and topographical conditions under Alternative 2 (Build Alternative).

GEO-1 Prior to completion of final design, SBCTA's geotechnical engineer will ensure a final design-level geotechnical report is prepared. Recommendations from the final design-level geotechnical report will be incorporated into the final Project plans and specifications during the final design phase to ensure the geotechnical stability of the Project. This report will document soil-related constraints and hazards, such as slope instability, settlement liquefaction, or related secondary seismic effects, which may be present. The report will also include:

- Evaluation of expansive and potentially corrosive soils and recommendations regarding construction procedures and/or design criteria to reduce the effect of these soils on Project development
- Identification of potential liquefiable areas within the Project limits and recommendations for mitigation measures
- Demonstration that the design of all proposed retaining walls is geotechnically suitable for soils within the Project limits
- Geotechnical recommendations for the specific foundation design and earthwork construction considered for this Project

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2.14 Paleontology

2.14.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects. The following laws and regulations are applicable to this Project: 23 United States Code (USC) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws, and 23 USC 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law. Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.14.2 Affected Environment

This section is based on the *Paleontological Technical Memorandum* (Caltrans 2019l) that was prepared for the Project.

The Project is located in the Yucaipa Valley within the northern part of the geologically complex Peninsular Ranges geomorphic province near the boundary with the Transverse Ranges geomorphic province to the north. A geomorphic province is a region of unique topography and geology that is distinguished from other regions based on its landforms and tectonic history. The Peninsular Ranges are a northwest-southeast-oriented complex of blocks that extend 125 miles from the Transverse Ranges and Los Angeles Basin to the tip of Baja California. The Peninsular Ranges are bounded to the east by the Colorado Desert and range in width from 30 to 100 miles. Despite its location within the Peninsular Ranges, the Cretaceous basement rocks in the vicinity of the Project limits are of the San Gabriel Mountains-type, which constitute the upper plate of the Vincent Thrust, bounded to the north largely by modern strands of the San Andreas Fault and to the south by the Late Miocene Banning Fault. Miocene-age and younger sedimentary deposits unconformably overlie the basement rocks.

Research and mapping have shown that the area within the Project limits is underlain by various types of sedimentary deposits (Figure 2.14-1). The geologic units mapped within the Project limits include very old axial-valley deposits (Qvoa3), old axial-valley deposits (Qoa1), young alluvial-fan deposits (Qyf5), young axial-valley deposits (Qya5 and Qya3), very young wash deposits (Qvyw), and very young alluvial-fan deposits (Qvyf). The Pliocene- to Pleistocene-age upper member of the San Timoteo beds (QTstu) is also mapped in the Project limits and consists of nonmarine sandstone

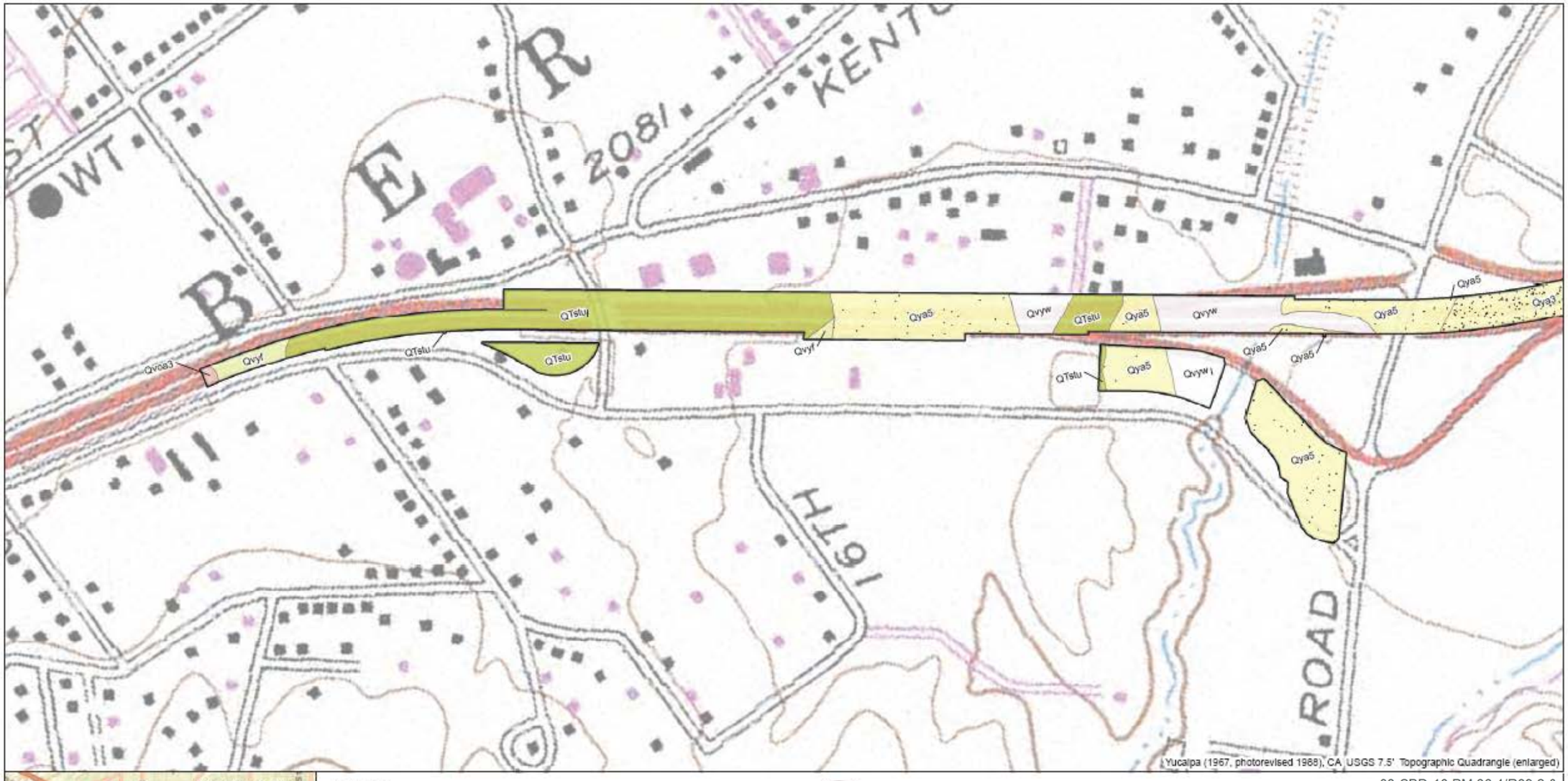
and conglomerate. The young and very young axial-valley and wash sediments generally occur in the bottoms of arroyos and canyons, which incise the older sediments of the San Timoteo Formation and overlie very old and old Pleistocene-age axial-valley deposits, thus forming the familiar badlands topography of the region. The young and very young alluvial units (Qyf5, Qvyf, Qya3, Qya5, and Qvyw) are roughly equivalent to the Holocene-age alluvial deposits (Qa). The very old and old alluvial units (Qvoa3 and Qoa1) and upper member of the San Timoteo Formation (QTstu) are roughly equivalent to the Pleistocene-age alluvial deposits (Qoa).

Holocene-age alluvial deposits are generally too young to contain fossilized material. These young deposits likely overlie Pleistocene-age alluvial deposits and the San Timoteo Formation, especially within the arroyos and canyons, and possibly also the pre-Pliocene Mill Creek Formation/Potato Sandstone. The Pleistocene-age alluvial deposits and San Timoteo Formation throughout inland valleys of San Bernardino and Riverside Counties have been demonstrated to be highly fossiliferous (Caltrans 2019l). Fossils reported from the San Timoteo Formation include mastodon, horse, camel, antelope, dog, bear, rodent, and rabbit. Fossils reported from Pleistocene-age alluvial deposits include mammoths, mastodons, ground sloths, dire wolves, sabre-toothed cats, large and small horses, large and small camels, and bison, as well as plant macro- and microfossils. The paleontological significance and age of the Mill Creek Formation/Potato Sandstone are not well established; however, fossil plant specimens from this provenience have been reported (Caltrans 2019l).

2.14.2.1 Records Search

A search for paleontological records within the Project limits was completed and included using published geologic maps, paleontological literature, technical reports (including the City of Yucaipa General Plan Draft Environmental Impact Report [EIR] [Placeworks 2015a,b]), records from the Natural Historical Museum of Los Angeles County, and records from the University of California Museum of Paleontology online database.

The research yielded no fossil localities that have been previously collected from within the Project limits; however, several localities are recorded near the vicinity of the Project limits. Fossils recovered from these nearby localities include extinct horse (*Equus*), bison (*Bison antiquus*), coachwhip (*Masticophis flagellum*), and camel (*Camelidae*).


Qvoa3
Qvyf
QTstu
QTstu
QTstu
Qvyf
Qya5
Qvyw
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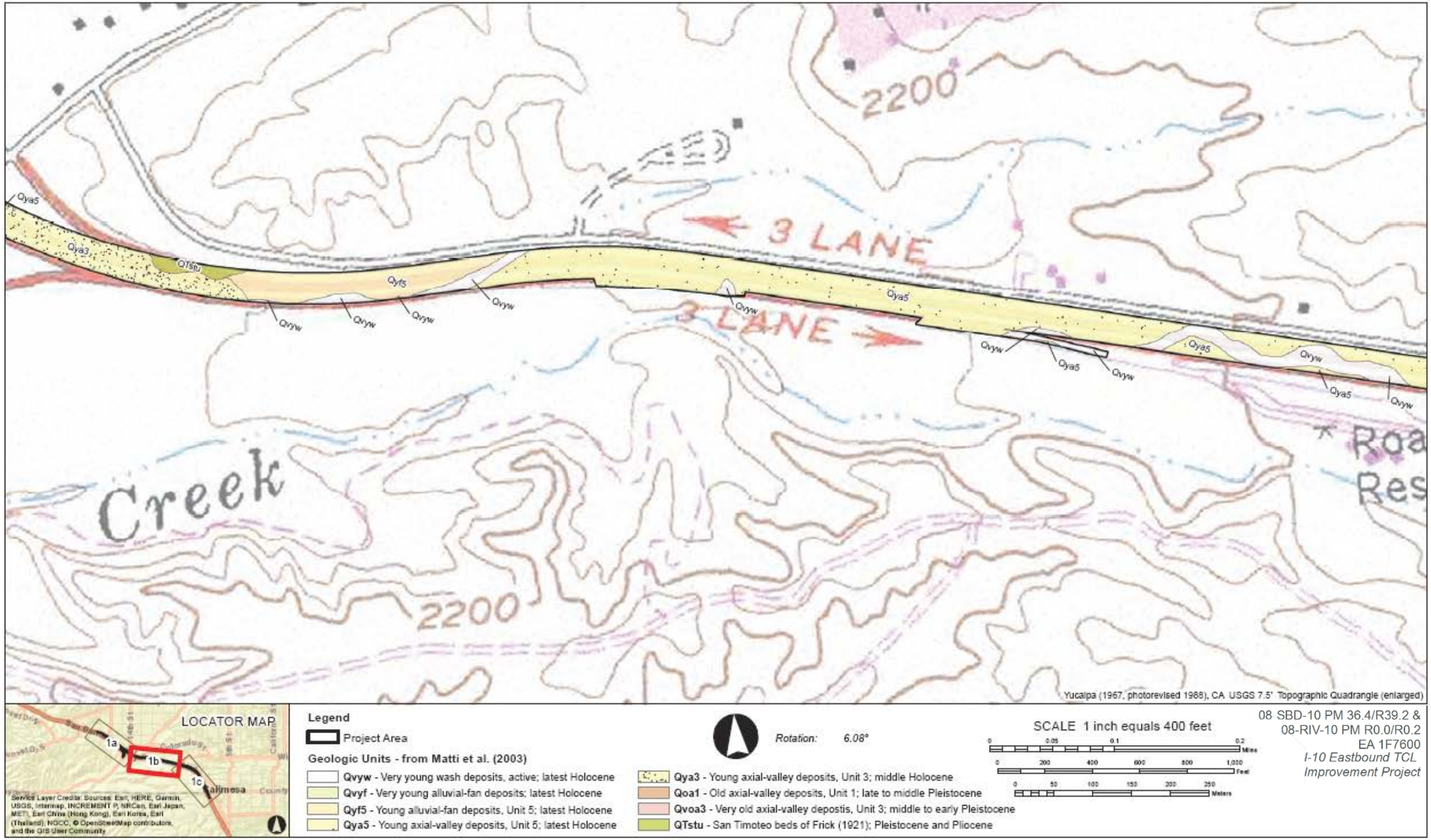


Figure 2.14-1. Geology Map
(Sheet 2 of 3)

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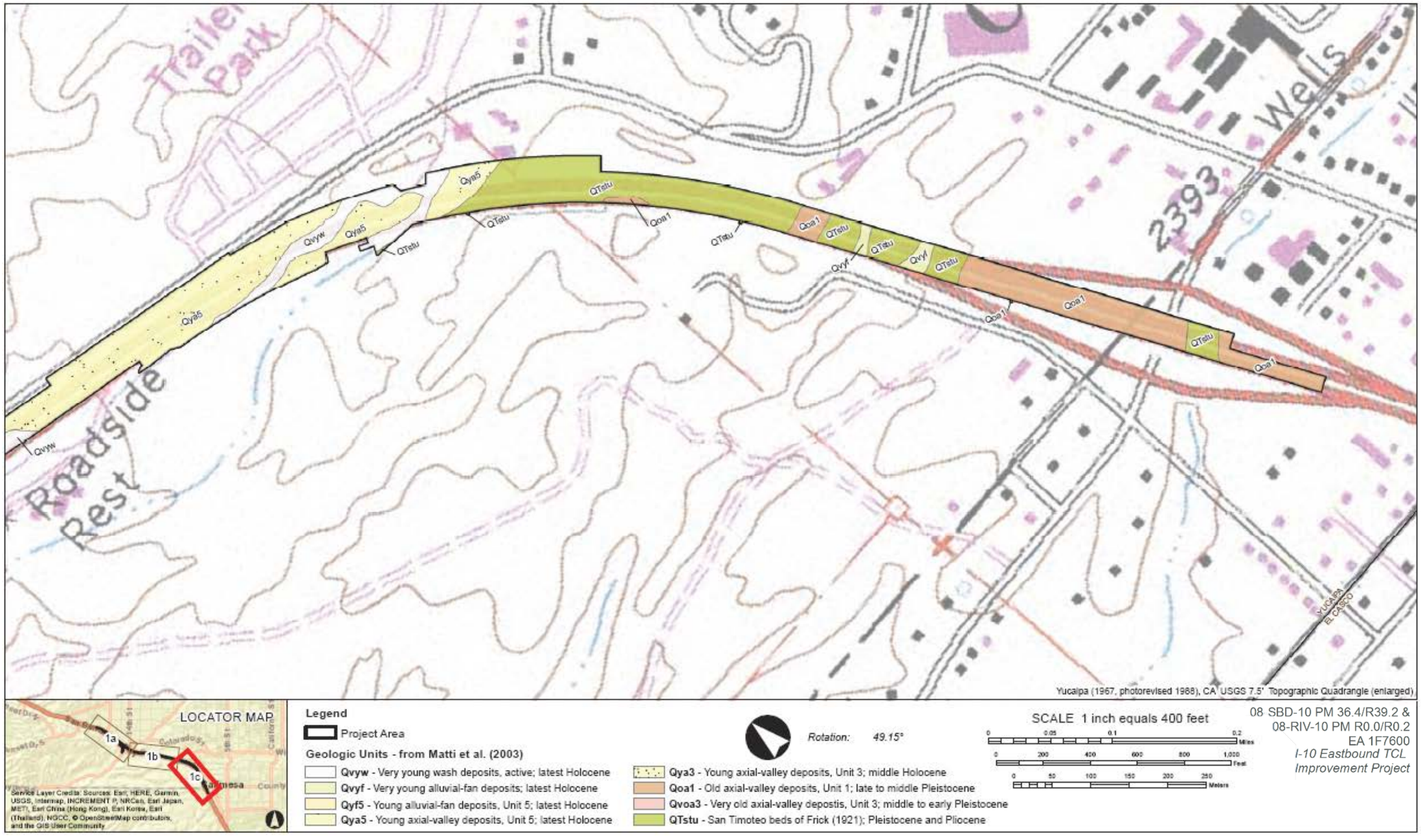


Figure 2.14-1. Geology Map
(Sheet 3 of 3)

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2.14.3 Environmental Consequences

Paleontological resources are considered to be significant if they provide new data on fossil animals, their distribution, evolution, or other scientifically important information. Caltrans uses a tripartite scale to characterize paleontological sensitivity of an area as no potential, low potential, or high potential for paleontological resources because the actual presence of paleontological resources is not known until a Project is underway.

High Potential: This includes geologic units that are considered to be sensitive for paleontological resources and have a high potential if significant vertebrate, invertebrate, plant, or trace fossils have been recovered anywhere in their extent, even if outside the Project limits; or if the units are sedimentary rocks that are temporally or lithologically suitable for the preservation of significant fossils. Areas with geologic units considered to have high potential require monitoring and mitigation.

Low Potential: This includes geologic units that are considered to have a low potential if they are sedimentary rocks that have not yielded significant fossils in the past but may possess the potential for containing fossil remains; or they yield common and widespread invertebrate fossils that do not provide new and useful data. Areas with these units generally do not require monitoring and mitigation.

No Potential: These are geologic units with no potential for the presence of fossil resources. They include intrusive igneous rocks, most extrusive igneous rocks, and moderately to highly metamorphosed rocks that do not preserve fossils.

The paleontological sensitivity analysis conducted for this Project determined that all Holocene-age alluvial deposits (Qa, Qyf5, Qvyf, Qya3, Qya5, and Qvyw) have a low potential for paleontological resources. All Pleistocene-age alluvial deposits (Qoa, Qvoa3, and Qoa1), as well as the San Timoteo Formation (QTstu), have a high potential for paleontological resources. Additionally, the thickness of the Holocene-age alluvial deposits is unknown at this time, and they likely overlie Pleistocene-age alluvial deposits and/or the Plio-Pleistocene San Timoteo Formation, as well as the pre-Pliocene Mill Creek Formation/Potato Sandstone.

2.14.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in temporary impacts on paleontological resources because there would be no earth-moving activities.

Alternative 2 (Build Alternative)

Any impacts on paleontological resources are permanent and irreparable; therefore, there would be no temporary impacts under Alternative 2 (Build Alternative).

2.14.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

There would be no adverse impact on paleontological resources under Alternative 1 (No-Build Alternative) because there would be no earth-moving activities.

Alternative 2 (Build Alternative)

Shallow excavations (40 inches to 3 feet bgs) proposed for the installation of the metal guardrails and roadway improvements are unlikely to impact paleontological resources in locations where the surface geology is mapped as Holocene-age alluvial deposits. Most ground disturbance would be limited to within presently developed roadways and their disturbed underlying surfaces, as well as surfaces already partially disturbed within Caltrans and City ROW. Furthermore, the maximum depths of these excavations may not impact paleontological resources even in previously undisturbed areas because surface sediments typically extend several feet below the present ground surface and generally do not include intact and significant fossils. Consequently, shallow excavations for the metal guardrails and roadway are not anticipated to impact paleontological resources.

Excavations for signage foundations to a depth of 6 feet bgs could potentially impact paleontological resources in the Pleistocene-age alluvial deposits and in the San Timoteo Formation. However, these excavations are not anticipated to exceed 8 inches in diameter, and only a few are proposed throughout the Project limits. Because ground disturbance would be limited to such a small total volume, excavations for the signage foundations are unlikely to impact paleontological resources.

Excavations for the foundations of potential cantilever signs to the approximate depth of 33 feet bgs are more likely to impact intact and paleontological significant resources. The cantilever signs are proposed for the eastern terminus of the Project limits, where outcrops of high potential Pleistocene-age alluvial deposits and the San Timoteo Formation are mapped at the present ground surface. These proposed foundations would require a larger volume of excavated sediment than the Project activities discussed above. As a result of greater potential for Project impacts on paleontological resources in the areas identified to construct the cantilever signs, excavations for the foundations of the cantilever signs would require monitoring and mitigation to reduce adverse

impacts on paleontological resources to a less than substantial level. A Paleontological Mitigation Plan prepared during final design is proposed in Measure PAL-1.

As excavation for construction gets underway, it is possible that new and unanticipated paleontological resources might be encountered in areas currently determined to have low potential. If this occurs, a qualified Principal Paleontologist would need to evaluate each paleontological resource. If the paleontological resource is determined to be significant, monitoring and mitigation would be required, as identified in Measure PAL-2.

2.14.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce the likelihood of adverse effects related to impacts associated with paleontological resources under Alternative 2 (Build Alternative).

PAL-1 SBCTA will ensure a paleontological mitigation plan is prepared by a qualified Project Paleontologist/Principal Investigator prior to completion of the final design phase of this Project for all Project-related ground disturbance in areas of paleontological sensitivity. All elements of the paleontological mitigation plan will follow the format published in the Caltrans SER. The paleontological mitigation plan will detail the measures to be implemented and include a requirement for WEAP training to address the required interfacing of paleontological and construction personnel.

PAL-2 In the event that new and unanticipated paleontological resources are encountered during construction, SBCTA will ensure that a qualified principal paleontologist evaluate each paleontological resource discovered. If the paleontological resource is determined to be significant, monitoring and mitigation will be required.

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2.15 Hazardous Waste and Materials

2.15.1 Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as "Superfund," is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California

regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

2.15.2 Affected Environment

This section is based on the *Initial Site Assessment* (ISA) (Caltrans 2018d), *Initial Site Assessment Update Memorandum* (Caltrans 2020c) and the *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f) prepared for the Project. The hazardous waste/materials study area consists of the Project limits and properties adjacent to the Project limits. The Project limits are defined as I-10 from the 16th Street Overcrossing Bridge in the City of Yucaipa to 0.2 mile east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The Project limits include all proposed improvements and two TCEs for construction staging areas. All Project work would occur within Caltrans ROW and two TCEs required for potential staging areas located at Outer Highway 10 South and Live Oak Canyon Road Interchange, which are located with the City of Yucaipa's ROW. Land uses surrounding the Project limits are vacant land, residential, commercial, and industrial.

The ISA was conducted to identify potential and known contaminant sources or recognized environmental conditions (REC), historical RECs (HREC), and controlled RECs (CREC) in the Project limits. The ISA was prepared in general accordance with the American Society for Testing and Materials (ASTM) International, Inc., Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-13 (ASTM Standard) and Caltrans' ISA procedures. The ISA would not meet "innocent landowner" provisions under CERCLA, which establishes a defense for the purchase of real property.

The following tasks were conducted as part of the ISA:

- **Environmental Database Review:** An environmental database search was conducted using GeoSearch, Inc. to gather government database records dated November 13, 2017. The search consisted of the Project limits and properties up to approximately 1 mile from the Project limits and had met the government records search requirements of ASTM E1527-13. Selected government databases were reviewed for cases pertaining to leaking underground storage tanks (LUST), aboveground storage tanks (AST), hazardous waste sites, and abandoned sites within a specified radius of 0.50 mile.

- **Historical Land Use Records Review:** Historical aerial photographs and topographic maps were reviewed. In addition, oil and gas well maps on the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) online mapping database were reviewed April 30, 2018.
- **Agency Records Review:** The records review was supplemented by online databases, including the SWRCB's GeoTracker database (reviewed April 25, 2018), the California Department of Toxic Substances Control's (DTSC) ENVIROSTOR database, the California Department of Resources Recycling and Recovery's Solid Waste Information System (SWIS) database (reviewed April 26, 2018), and the National Pipeline Mapping System's website (reviewed April 26, 2018).
- **Site Reconnaissance:** On April 27, 2018, a reconnaissance-level assessment of the Project corridor was conducted to document current land uses and observe for any indication of potential contamination issues or releases that may have an impact on the Project. The site reconnaissance consisted of the observation and documentation of existing site conditions. The site visit was limited to observations made while driving the Project corridor on I-10 EB and WB, observations from surface streets adjacent to the I-10 facility, and observations from stationary positions near the Oak Glen Creek wash and bridge. Fences, vegetation, buildings, and access limited the site observations.

The Initial Site Assessment Update Memorandum (ISA Update Memorandum) was prepared in June 2020 to verify the findings of the 2018 ISA. The ISA Update Memorandum included an updated environmental database search records as of June 24, 2020. The search same search radius as previously evaluated within the 2018 ISA and meets the government records search requirements of ASTM E1527-13.

2.15.2.1 Sites of Concern

Based on the due diligence efforts completed as part of the ISA, no evidence of RECs, HRECs, or CRECs were identified within the Project limits. However, 18 adjacent properties were identified to pose a low to moderate risk to the Project, of which 1 property is a REC site, and 2 properties are an HREC site. Table 2.15-1 lists each site of concern and includes a description of the potential contamination issues that may have an impact on the Project and a hazard ranking of high, moderate, or low. The hazard rating was determined using guidance from the Caltrans' Project Development Procedures Manual (PDPM), Chapter 18 – Environmental Contamination (Caltrans 2006) and based on hydrogeologic gradient, field observations, land use, distance from the Project corridor, and regulatory information from reviewed databases. The ISA's high, moderate, and low

classification rating for sites of concern conform to the Caltrans PDPM, Chapter 18, and are defined as:

- **High:** High potential risk–facilities with known or probable soil/groundwater contamination (e.g., an unpermitted or historical landfill) and facilities where remediation is incomplete or undocumented or where contamination is migrating toward the Project corridor
- **Moderate:** Moderate potential risk–facilities with identified or potential soil contamination (e.g., an industrial property with less than 20 years of use and good waste management practices), with remediation in progress or with groundwater contamination that does not appear to be migrating
- **Low:** Low potential risk–facilities that have completed remediation or have historically utilized only small amounts of known contaminants (e.g., small quantity generators or non-adjacent permitted underground storage tanks (UST) or are located hydrologically cross or down gradient from the Project corridor

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
Winegardner Masonry, Inc. 32147 Dunlap, Boulevard, Suite A, Yucaipa, California	Adjacent across the WB side of I-10	The facility is a masonry company and has an SCAQMD permit for the release of organic gasses, CO, NOx, SOx, and fine particulate matter. The facility has had empty containers, waste adhesives, ACMs, and aqueous solutions containing less than 10% organic residue removed under manifest and disposed of in accordance with applicable regulations. The facility is also permitted by the SBCFD as a conditionally exempt small quantity generator.	No	Low
Redlands Yucaipa Rentals 32194 Outer Highway 10, Redlands, California	Adjacent across the EB side of I-10	The facility is a heavy equipment rental company and was the location of a LUST that impacted soil only. The release was cleaned up, and the case was closed on October 17, 1990. The facility produces oil-containing wastes that are removed under manifest and recycled. The facility was permitted as a special generator with San Bernardino County.	No	Low

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
S&L Transportation R&R Anderson Trucking 32225 Dunlap Boulevard, Yucaipa, California	Adjacent across the WB side of I-10	The facility maintained one 1,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 10,000-gallon diesel UST and one 300-gallon waste oil UST. The facility is listed as a special handler and generator of hazardous materials.	No	Low
RV Concrete Incorporated 32300 Outer Highway 10, Redlands, California	Adjacent across the EB side of I-10	The facility is listed as a ready-mix concrete company; no releases, violations, or enforcements are listed.	No	Low
Sunstate Equipment Kelly Equipment Sales Boys N Berry Tractors 32313 Dunlap Boulevard, Yucaipa, California	Adjacent across the WB side of I-10	The facility maintains a 2,000-gallon AST containing unreported materials. The facility disposes of various waste organic solids and liquids under manifest at appropriate disposal facilities or to the sanitary sewer under a NPDES permit. No releases, violations, or enforcements are listed.	No	Low

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
Unocal 76 Station #5636 665 W County Line Road, Calimesa, California	Adjacent across the WB side of I-10	The facility had a release from a gasoline UST. The gasoline impacted soil only, and the case was closed in 1995. The facility also operated a waste oil tank. The tank was regularly emptied, and the contents were removed by a licensed hazardous waste transporter for disposal at a recycler. No other releases or violations are reported for the site.	Yes, HREC	Low
Jorco Chemical Co., Brine Facility Jorco Chemical Co. 32185 Outer Highway 10, Redlands, California	Adjacent across the EB side of I-10 and down gradient	The facility is a plastics manufacturer that had a reported release of acrylic acid from a tanker trailer on the facility. The spill was contained on site and cleaned up by an environmental contractor. The facility also operated a brine pond that was closed January 29, 1991. No releases from the brine pond are reported. The facility was the site of a solvent release from a UST. The case was closed by the RWQCB June 14, 2012. The operators of the facility entered into a voluntary cleanup agreement with the DTSC for releases of non-petroleum VOCs. DTSC granted the facility No Further Action status June 14, 2012. The facility operated five USTs, three 5,000-gallon tanks, and two 3,000-gallon tanks. All the tanks contain various feedstock chemicals used in the manufacture of plastics. The facility is listed as a RCRA small quantity generator. No violations or enforcements were found relating to the handling and disposal of process wastes.	Yes, HREC	Low
Ben Clymer's The Body Shop 32247 Dunlap Boulevard, Yucaipa, California	Adjacent across the EB side of I-10 and down gradient	The facility is an automotive body shop. The facility generates solvent mixtures and aqueous solutions with less than 10% organic residue. These wastes are transported off site under manifest to a licensed recycler. The facility is classified as a conditionally exempt small quantity generator by San Bernardino County.	No	Low

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
Jeeperformance, Inc. Yucaipa Transmission & Automotive 32215 Dunlap Boulevard, Suite F, Yucaipa, California	Adjacent across the WB side of I-10 and up gradient	The facility is an automotive body and repair shop and is listed as a small quantity generator by San Bernardino County. No violations or enforcements listed.	No	Low
Sorenson Engineering, Inc. 32032 Dunlap Boulevard, Yucaipa, California	Adjacent across the WB side of I-10 and up gradient	The facility is a machine shop that produces spent solvents and acids during the course of manufacturing. The soil, soil vapor, and groundwater at the facility were found to be impacted with chlorinated VOCs. The case is currently open and being assessed. The facility was also the site of a former gasoline LUST. The LUST case was closed May 4, 2004, by the SBCFD. Groundwater flows northeast away from the Project corridor in the vicinity of the Sorensen facility.	Yes, REC	Moderate
Circle K #0324 31933 Outer Highway 10, Yucaipa, California	Adjacent across the EB side of I-10	The facility is a former LUST site. Gasoline released from USTs impacted the underlying soil. The case was closed by the SBCFD August 15, 1990.	No	Low
Daniels Market 32088 Dunlap Boulevard, Yucaipa, California	Adjacent across the WB side of I-10	The facility operated two USTs of indeterminate size and has records of disposal of 0.4 ton of waste oil in 1998. There are no indications of violations or enforcements are listed for this facility.	No	Low

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
Ron's Marine Service Center Hurley Auto Body 13400 Calimesa Boulevard, Yucaipa, California	Adjacent across the WB side of I-10	The facility is a boat and auto service center. The facility is a conditionally exempt small quantity generator, according to the SBCFD. The facility has records for the removal and disposal of spent solvents. No violations or enforcements are listed for this facility.	No	Low
Calimesa SOCO Shell OK Service SOCO Group SOCO Texaco #78 SOCO Petroleum Calimesa Exxon 33928 County Line Road, Yucaipa, California	Adjacent across the WB side of I-10	The facility is a gas station that had a gasoline release from a LUST that impacted the underlying soil. The release was remediated by soil vapor extraction, and the case was closed by the SBCFD December 23, 2009. No other violations or enforcements are listed for this facility.	No	Low
Dinosaur Tire and Road Service 13500 W Calimesa Boulevard, Yucaipa, California	Adjacent across the WB side of I-10	The facility is a tire retailer and installer. The SBCFD lists the facility as a small quantity generator. No violations or enforcements are listed for this facility.	No	Low

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
Hillcrest Mobile Estates DL Glaze Co. 33600 Calimesa Boulevard, Yucaipa, California	Adjacent across the WB side of I-10	An asbestos abatement was performed at this location. No violations or enforcements are listed for this facility.	No	Low
Skat-Trak, Inc. 654 Avenue K, Calimesa, California	Adjacent across the WB side of I-10	The facility is a small quantity generator that produces PCE as a waste product. No violations or enforcements are listed for this facility.	No	Low
DJ Miller, Inc. 32257 Dunlap Boulevard, Yucaipa, California	Adjacent across the WB side of I-10	This facility previously had a special generator and handler permit from San Bernardino County. The permit is currently expired. No violations or enforcements are listed for this facility.	No	Low
Stacey Auto Repair 13394 Calimesa Boulevard, Yucaipa, California	209 feet northeast of I-10	This facility at one time had a conditionally exempt special generator from San Bernardino County. The permit is currently expired. No violations or enforcements are listed for this facility.	No	Low
Patrick Septic Tank Service 32195 Dunlap Boulevard, Yucaipa, California	290 feet northeast of I-10	This facility at one time had a conditionally exempt special generator permit from San Bernardino County. The permit is currently expired. No violations or enforcements are listed for this facility.	No	Low

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
Mobile Recycling #2 13700 Calimesa Boulevard, Yucaipa, California	528 feet northeast of I-10	The facility is listed as a recycling center. No violations or enforcements are listed for this facility.	No	Low
Faststrip Food Store 13710 Calimesa Boulevard, Yucaipa, California	629 feet east of I-10	The facility is a former LUST site. A gasoline leak was detected on August 21, 1996. The tank was excavated on August 27, 1996. The gasoline release impacted the soil beneath the tank and did not extend to groundwater. The SBCFD closed the case on December 11, 2001.	No	Low
Calimesa Gas Station 905 Calimesa Boulevard, Yucaipa, California	0.12 mile east of I-10	The facility is a former LUST site. A gasoline release was detected on December 22, 1993. The gasoline release impacted the soil beneath the tank. Remediation began on February 1, 1996. The Riverside County Department of Environmental Health closed the case on November 9, 2004.	No	Low
Plaza Cleaners 34088 County Line Rd, Yucaipa, California	0.10 mile east of I-10	The facility is an active dry cleaner and a San Bernardino County conditionally exempt small quantity generator. No violations or enforcements are listed for this facility.	No	Low

Table 2.15-1. Sites of Concern

Facility	Distance from Project Limits	Site Conditions	REC	Hazard Rating
County Line Cleaners 34112 County Line Rd, Yucaipa, California	0.21 mile east of I-10	The facility is an active dry cleaner and a San Bernardino County conditionally exempt small quantity generator. No violations or enforcements are listed for this facility.	No	Low

Source: Caltrans 2018d

Notes:

AST=aboveground storage tank; ACM=asbestos-containing material; CO=carbon monoxide; DTSC=Department of Toxic Substances Control; EB=eastbound; HREC=historical recognized environmental condition; I-10=Interstate 10; LUST=leaking underground storage tank; NOx=nitrogen oxide; NPDES=National Pollutant Discharge Elimination System; PCE=tetrachloroethylene; RCRA=Resource Conservation and Recovery Act; REC=recognized environmental condition; RWQCB=Regional Water Quality Control Board; SBCFD=San Bernardino County Fire Department; SCAQMD=South Coast Air Quality Management District; SOx=sulfur oxide; UST=underground storage tank; VOC=volatile organic compound; WB=westbound

2.15.2.2 Other Conditions of Concern

Aerially Deposited Lead

Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the Project. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

The use of lead additives was banned in automobile fuel in the U.S. in 1996. The concentration and distribution of ADL in soil depends on many variables, including traffic volumes and the roadway age. I-10 consists of a six-lane freeway constructed between 1959 and 1968. Based on the time period of construction of I-10, leaded gasoline was still in use. However, according to the ISA, an ADL survey was performed between 2005 and 2007 for a portion of I-10 that includes the Project limits. The survey analyzed for ADL contamination within 1 foot bgs. Based on the results of the ADL

investigation, concentrations of lead exceeding the U.S. EPA Regional Screening Level for unrestricted land use (residential) were not found within the Project corridor. As a result, the Project corridor does not appear to be impacted by ADL.

Asbestos-Containing Material

Asbestos is a generic commercial description for a group of naturally occurring mineral substances that is used in buildings and manufacturing because of its fire resistance. Asbestos is most hazardous when it is easily crumbled or reduced by hand ("friable"). Prior to 1978, asbestos was commonly used in building materials. Asbestos is still used in building materials today, though its use is uncommon due to the associated hazards. Asbestos-containing materials (ACM) include fireproofing; acoustic ceiling material; transite pipe; roofing materials; thermal insulation; support piers; expansion joint material in bridges, asphalt, concrete; and other building materials.

To accommodate the widening of I-10, the gap between the Oak Glen Creek Bridges (Bridge No. 54-0648R and 54-0648L) over Oak Glen/Wilson Creek would be filled-in to create one single monolith bridge. An asbestos survey was performed on the Oak Glen Creek Bridges (Bridge No. 54-0648L and 54-0648R). According to *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f), detectable concentrations of ACMs were found beneath bolts associated with the guardrail bolts in Bridge No. 54-0648L and atop bolts associated with the guardrail bolts in Bridge No. 54-0648R.

Lead-Based Paint

Regulations have restricted the use of lead in paints and primers and limited the use of paints in areas where consumers would have direct access to painted surfaces in non-industrial facilities. It is presumed that structures constructed prior to 1978 have lead-based paint (LBP).

A LBP survey was performed on the Oak Glen Creek Bridges (Bridge No. 54-0648L and 54-0648R). According to *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f), no surface coatings on the bridges were found to contain lead concentrations that would be defined as LBP. Lead would not be an issue as long as the Project limits remain unchanged.

Thermoplastic Striping

Thermoplastic paint and yellow painted traffic stripes/pavement markings may contain lead chromate. Lead chromate was phased out in waterborne traffic paint between 1997 and 2000 and in thermoplastic striping in 2004. Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22 of the California Code of Regulations (CCR) and require disposal to a Class I disposal facility.

A lead survey was conducted of traffic striping within the Project limits. According to *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f), lead content was found within the white roadway striping and the yellow roadway striping but were at concentrations that would be considered as non-hazardous waste.

Polychlorinated Biphenyls

Pole- and pad-mounted transformers may contain polychlorinated biphenyls (PCB). According to the ISA, no pole- or pad-mounted transformers were observed within or adjacent to the Project limits.

Pesticides and Herbicides

Pesticides were not observed on site; however, the Project corridor was utilized for agricultural purposes, including row crops, orchards, and vineyards. Pesticides and arsenical herbicides were possibly used during this time. According to the ISA, the presence of arsenic and/or organochlorine pesticides exceeding hazardous waste criteria appears to be low because the near surface soils were previously disturbed during the original construction of I-10.

Storage Tanks and Chemical Containers

According to the ISA, no evidence of USTs (such as vent lines, fill or overfill ports), drums, or other chemical containers were observed within the Project limits.

Treated Wood Waste

Treated wood objects, such as wooden utility poles, railroad ties, guardrails, and signage posts, may contain creosote and pentachlorophenol. Treated wood objects that are removed from the Project corridor are classified as treated wood waste (TWW). There is a potential for treated wood to be present in the supports of the median guardrails and signage posts along the majority of the Project corridor. No utility poles were identified in the median of the Project corridor.

Oil and Gas Wells

Oil and gas wells have the potential to release petroleum hydrocarbons to soil and groundwater as releases from equipment or from improperly cased or plugged wells. Based on the review of the DOGGR online mapping database performed as part of the ISA, no oil or gas wells are located within the Project limits.

Landfills

Based on the review of the SWIS database performed as part of the ISA, no active or historical landfills were found on or adjacent to the Project limits.

Septic Systems and Wastewater

The ISA found no evidence of pits, ponds, lagoons, septic systems, sumps, wastewater, drains, and cisterns.

Solid Waste Disposal

Solid waste is not currently generated within the Project limits. Regular litter removal activities within the Project limits are conducted by Caltrans.

2.15.3 Environmental Consequences

2.15.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not involve ground or structure disturbance. Therefore, Alternative 1 (No-Build Alternative) would not result in potential health and environmental risks associated with any hazardous materials present within the Project limits.

Alternative 2 (Build Alternative)

Site of Concern

The ISA and ISA Update Memorandum did not identify any RECs, HRECs, or CRECs sites within the Project limits. However, 18 adjacent properties (Table 2.15-1) were identified to have a low to moderate potential of impacting the Project under Alternative 2 (Build Alternative), including 2 HREC sites and 1 REC site. The two HREC sites are Unocal 76 Station #5636 and Jorco Chemical Company. The Unocal 76 Station #5636 facility had a LUST case involving a gasoline release from a UST that had impacted soil. The LUST case was closed by the RWQCB in 1995. The Jorco Chemical Company was a plastic manufacturing firm that operated a brine disposal pond that was closed in 1991. The Jorco Chemical Company facility had a LUST case involving a solvent release from a UST. The site was remediated, and the LUST case was closed in 2012. These two HREC sites have a low hazard ranking because remediation activities have been completed and the LUST cases involving each facility have been closed. As a result, it is anticipated the two HREC sites would have a low potential of impacting the Project.

The ISA and ISA Update Memorandum had identified Sorensen Engineering as a REC site. Sorensen Engineering is a machine shop that produces small fittings for fluid handling applications. The soil, soil vapor, and groundwater at the facility were found to be impacted with chlorinated volatile organic compounds (VOC). The case is currently open and being assessed by the RWQCB. The facility was also the site of a gasoline LUST case that was investigated and closed May 4, 2004.

Although this REC site is currently open and being assessed, it has a moderate hazard ranking because groundwater flows northeast away from the Project corridor in the vicinity of the Sorensen facility. As a result, it is unlikely the Project would encounter any off-site migration of groundwater contamination associated with this facility.

No work associated with the Project would occur at the HREC and REC properties. These sites and the other properties listed in Table 2.15-1 were found to have a low to moderate potential to adversely affect the Project.

Other Conditions of Concern

Hazardous wastes and materials may be encountered during construction activities for Alternative 2 (Build Alternative), as described below. Hazardous materials would be properly handled, contained, transported, and disposed of in compliance with applicable regulations and requirements, which may include the RCRA, the Clean Air Act, the CWA, the California DTSC Environmental Health Standards for the Management of Hazardous Waste, the provisions of the San Bernardino County Fire Department Hazardous Materials Division, and USDOT hazardous materials regulations. Measures HAZ-1 through HAZ-3 describe efforts that would be made to avoid or minimize adverse effects with known or suspected hazardous materials and wastes during construction.

Asbestos-Containing Materials

Project construction would require disturbance activities, including median paving, of the Oak Glen Creek Bridges (Bridge No. 54-0648L and 54-0648R) to accommodate the widening of I-10. According to *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f), ACMs were detected beneath bolts associated with the guardrail bolts in Bridge No. 54-0648L and atop bolts associated with the guardrail bolts in Bridge No. 54-0648R. Any work that would physically impact ACMs would be conducted in accordance with Caltrans' SSP 14-11.16, Asbestos-Containing Construction Materials in Bridges, South Coast Air Quality Management District (SCAQMD) Rule 1403, and National Emission Standards for Hazardous Air Pollutants (NESHAP) (Measure HAZ-1).

Treated Wood Waste

There is a potential the Project may require the removal of treated wood in the supports of the median guardrails and signage posts along the Project corridor. Treated wood objects removed from the Project corridor are classified as TWW. The removal of any TWW would be conducted in accordance with Chapter 34 of the Title 22 CCR Section 67386.1 through 67386.12 (Measure HAZ-2).

Lead Content

Based on the findings of the ADL investigation, ADL was not detected along the corridor within the Project limits. In addition, according to the *Asbestos and Lead Based Paint Testing Results* (Caltrans 2019f), no surface coatings on the existing bridges were found to contain lead concentrations that would be defined as LBP. Traffic striping tested within the Project limits as part of the *Asbestos and Lead Based Paint Testing Results* (Caltrans 2019f) were not detected at concentrations that would qualify as hazardous waste. With the implementation of a Lead Compliance Plan (LCP) as identified in Measure HAZ-3, protections would be in place to minimize work exposure to lead content. The LCP would be prepared by a Certified Industrial Hygienist and in accordance with Title 8 CCR Section 1532.1.

2.15.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not change the existing physical environment; therefore, no permanent impacts on the surrounding environment as a result of a release or exposure to hazardous waste or hazardous materials would occur.

Alternative 2 (Build Alternative)

Routine maintenance activities during operation of Alternative 2 (Build Alternative) would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, the operation of the Project would not result in adverse direct or indirect permanent impacts related to hazardous waste or materials.

2.15.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures, as identified by the ISA and verified by the ISA Update Memorandum prepared for the Project, will be implemented to help protect worker health and safety, the public, and the environment. These measures would substantially reduce the likelihood of adverse effects related to temporary impacts associated with hazardous wastes and materials during construction under Alternative 2 (Build Alternative).

HAZ-1 ACMs were detected in the Oak Glen Creek Bridges (Bridge No. 54-0648L and 54-0648R). During construction, SBCTA will ensure that any work that will physically impact ACMs will be conducted in accordance with Caltrans' SSP 14-11.16, Asbestos-Containing Construction Materials in Bridges, SCAQMD Rule 1403 and NESHAP.

HAZ-2 During construction, SBCTA will ensure the removal of any treated wood objects be handled as TWW and managed per the Alternative Management Standards for Treated Wood Waste, as required by Chapter 34 of the Title 22 CCR Section 67386.1 through 67386.12.

HAZ-3 Prior to construction, SBCTA will ensure a LCP is prepared to protect worker safety from exposure to lead in ADL soils, striping, and LBP in bridges during construction. The LCP would be prepared by a Certified Industrial Hygienist and in accordance with Title 8 CCR Section 1532.1.

HAZ-4 The Sorensen Engineering (32032 Dunlap Boulevard, Yucaipa, California) property is currently open and being assessed by the RWQCB for VOC contamination in soil, soil vapor, and groundwater. The ISA has identified this property as a REC site with a moderate hazard ranking because groundwater flows northeast away from the Project corridor in the vicinity of the Sorensen facility. The Project will avoid this property due to its moderate hazard risk ranking.

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2.16 Air Quality

2.16.1 Regulatory Setting

2.16.1.1 Federal

Federal Clean Air Act

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM) —which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), Lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

Conformity

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity

requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope[1] that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

2.16.1.2 Regional

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary,

[1] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

mobile, and indirect sources. It has responded to this requirement by preparing a sequence of Air Quality Management Plans (AQMP). The Final 2016 AQMP was adopted by the SCAQMD Board on March 3, 2016, and was adopted by the California ARB on March 23, 2017, for inclusion into the California SIP.

2.16.2 Affected Environment

This section is based on the *Air Quality Assessment Report* (Caltrans 2019g) prepared for the Project.

2.16.2.1 Climate

The Project is primarily located at the south edge of San Bernardino County in the City of Yucaipa and at the north edge of Riverside County in the City of Calimesa, California. The Project is located in an area within the South Coast Air Basin (SCAB), which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. Air quality regulation in the SCAB is administered by SCAQMD, a regional agency created for the SCAB. Current and forecasted population for San Bernardino County is approximately 2.19 million in 2018 and 2.58 million in 2040, and the county's economy is largely driven by retail trade, healthcare and social assistance, and transportation and warehousing.

The annual average temperature varies little throughout the SCAB, ranging from the low to middle 60s (measured in degrees Fahrenheit [°F]). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The Redlands Climatological Station, maintained by the National Oceanic and Atmospheric Administration (NOAA), is located near the Project site and is representative of meteorological conditions near the Project. The annual average maximum temperature recorded at this station is 78.1°F, and the annual average minimum is 49.2°F. January is typically the coldest month in this area of the SCAB.

The majority of rainfall in the SCAB occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern part of the SCAB along the coastal side of the mountains. The climatological station closest to the Project limits that monitors precipitation is the Redlands Climatological Station. Average rainfall measured at this station varied from a high 2.68 inches in January to 0.47 inch or less between May and September, with an average annual total of 13.56 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The SCAB experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high, a semi-permanent, subtropical area of high pressure located

northeast of Hawaii in the North Pacific Ocean. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed from midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

The combination of stagnant wind conditions and low inversions produces the greatest concentration of pollutants. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties. In the winter, the greatest pollution problems are from CO and nitrogen oxide (NO_x) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog.

2.16.3 Monitored Air Quality

The SCAQMD operates several air quality monitoring stations within the SCAB. The closest monitoring station to the Project limits is the Redlands-Dearborn Station (located at 500 North Dearborn Street, Redlands, California, 92373), which measures air quality data for O_3 (1-hour) and PM_{10}. In addition, the San Bernardino-4th Station (located at 24302 West 4th Street, San Bernardino, California, 92410) measures O_3 (8-hour), $PM_{2.5}$, NO_2, and CO. The locations of these monitoring stations are shown on Figure 2.16-1. Table 2.16-1 lists air quality trends identified from data collected at these air quality monitoring stations between 2013 and 2017.

Figure 2.16-1. Map of Air Quality Monitoring Stations Located Near the Project



Table 2.16-1. Local Air Quality Levels

Pollutant	Standard	2013	2014	2015	2016	2017
O_3						
Maximum 1-hour concentration		0.133	0.128	0.137	0.145	0.156
No. days exceeded: State	0.09 ppm	43	47	44	55	79
Maximum 8-hour concentration		0.112	0.099	0.117	0.118	0.136
No. days exceeded: State	0.070 ppm	51	75	78	106	112
Federal	0.070 ppm	51	75	78	106	112
CO						
Maximum 1-hour concentration		3.8	4.1	2.3	2.2	2.5

Table 2.16-1. Local Air Quality Levels

Pollutant		Standard	2013	2014	2015	2016	2017
No. days exceeded:	State	20 ppm	0	0	0	0	0
	Federal	35 ppm	0	0	0	0	0
Maximum 8-hour concentration			1.7	2.4	1.8	1.7	2.3
No. days exceeded:	State	9 ppm	0	0	0	0	0
	Federal	9 ppm	0	0	0	0	0
PM_{10}							
Maximum 24-hour concentration			72	62	95	72	77
No. days exceeded:	State	50 µg/m^3	2	2	2	4	2
	Federal	150 µg/m^3	0	0	0	0	0
Maximum annual concentration			27.1	25.9	24.7	27.8	26.2
Exceeded:	State	20 µg/m^3	Yes	Yes	Yes	Yes	Yes
$PM_{2.5}$							
Maximum 24-hour concentration			55.3	32.2	53.5	53.5	38.2
No. days exceeded:	Federal	35 µg/m^3	1	0	2	1	1
Maximum annual concentration			11.4	NA	10.7	11.1	11.4
Exceeded:	State	12 µg/m^3	No	—	No	No	No
	Federal	12.0 µg/m^3	No	—	No	No	No
NO_2							
Maximum 1-hour concentration			72.1	72.6	71.4	60.1	65.8
No. days exceeded:	State	180 ppb	0	0	0	0	0
	Federal	100 ppb	0	0	0	0	0
Maximum annual concentration			18	18	15	17	16

Table 2.16-1. Local Air Quality Levels

Pollutant		Standard	2013	2014	2015	2016	2017
Exceeded:	State	30 ppb	No	No	No	No	No
	Federal	53 ppb	No	No	No	No	No

Source: Caltrans 2019g

Notes:

Measurements recorded at the 500 North Dearborn Street, Redlands-Dearborn Station, for O_3 (1-hour) and PM_{10}; measurements recorded at the 24302 West 4th Street, San Bernardino-4th Station, for O_3 (8-hour), $PM_{2.5}$, NO_2, and CO.

$\mu g/m^3$=micrograms per cubic meter; CO=carbon monoxide; No.=number; NO_2=nitrogen dioxide; O_3=ozone; ppb=parts per billion; $PM_{2.5}$=particles of 2.5 micrometers or smaller; PM_{10}=particles of 10 micrometers or smaller; ppm=parts per million

2.16.3.1 Sensitive Receptors

Sensitive receptors include residential areas, schools, hospitals, other health care facilities, child/day care facilities, parks, and playgrounds. The Project limits are primarily within Caltrans ROW. All Project work would occur within Caltrans ROW, with the exception of select potential staging areas and a TCE required for the construction of a soundwall. Staging areas are proposed in areas south of I-10 at the 16th Street off-ramp, at Outer Highway 10 South and the Live Oak Canyon Road Interchange, and in the area of the Caltrans maintenance/material storage yard. Sensitive land uses located immediately adjacent to the Project limits include residential uses (mobile homes and rural farmland properties with residential uses) and a religious center. The closest residential uses to the Project limits are located between Dunlap Boulevard and I-10 at a distance of approximately 65 to 80 feet from the edge of shoulder of WB I-10. The largest residential development is a mobile home community (Hillcrest Mobile Estates), located north of Calimesa Boulevard near Wildwood Canyon Road, less than 100 feet from the edge of WB I-10. The closest religious center is located approximately 300 feet east of I-10 and near the intersection of Calimesa Boulevard and County Line Road. No other sensitive land use types are located immediately adjacent to the Project limits.

2.16.3.2 Criteria Pollutant Attainment/Nonattainment Status

The FCAA requires the U.S. EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The U.S. EPA classified the SCAB as attainment/maintenance for CO, PM_{10}, and NO_2 and nonattainment for O_3 and $PM_{2.5}$. The health effects and sources of the criteria

pollutants are described in Table 2.16-2. The NAAQS for the criteria pollutants and the associated federal attainment status within the SCAB are summarized in Table 2.16-3.

Under the CCAA, the San Bernardino County portion of the SCAB is designated as a nonattainment area for O_3, $PM_{2.5}$, and PM_{10}. The California Ambient Air Quality Standards (CAAQS) for the criteria pollutants and the associated state attainment status within the SCAB are summarized in Table 2.16-3.

Table 2.16-2. Air Pollutant Effects And Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
O_3	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
CO	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Respirable Particulate Matter (PM_{10})	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.

Table 2.16-2. Air Pollutant Effects And Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, SOx, ammonia, and ROG.
NO_2	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
SO_2	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.
Pb	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Sulfates	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.

Table 2.16-2. Air Pollutant Effects And Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
H_2S	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
VRP	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes

Notes:

CO=carbon monoxide; H_2S=hydrogen sulfide; NO_2=nitrogen dioxide; NOx=nitrogen oxides; O_3=ozone; Pb=lead; PM_{10}=particles of 10 micrometers or smaller; $PM_{2.5}$=particles of 2.5 micrometers or smaller; ROG=reactive organic gas; SO_2=sulfur dioxide; SOx=sulfur oxides; VOC=volatile organic compound; VRP=Visibility Reducing Particles

Table 2.16-3. State and Federal Criteria Air Pollutant Standards and Status

Pollutant	Averaging Time	State Standard[a]	Federal Standard[b]	State Project Attainment Status	Federal Project Area Attainment Status
O_3[c]	1 hour	0.09 ppm	—	Nonattainment	—
O_3	8 hours	0.070 ppm	0.070 ppm (4th highest in 3 years)	Nonattainment	Extreme Nonattainment
CO[d]	1 hour	20 ppm	35 ppm	Attainment	Attainment/ Maintenance

Table 2.16-3. State and Federal Criteria Air Pollutant Standards and Status

Pollutant	Averaging Time	State Standard[a]	Federal Standard[b]	State Project Attainment Status	Federal Project Area Attainment Status
CO	8 hours	9.0 ppm	9 ppm	Attainment	Attainment/ Maintenance
CO	8 hours (Lake Tahoe)	6 ppm	—	—	—
PM_{10}[e]	24 hours	50 µg/m^3	150 µg/m^3 (expected number of days above standard < or equal to 1)	Nonattainment	Attainment/ Maintenance
PM_{10}	Annual	20 µg/m^3	—	Nonattainment	—
$PM_{2.5}$[f]	24 hours	—	35 µg/m^3[e]	—	Nonattainment
$PM_{2.5}$	Annual	12 µg/m^3	12.0 µg/m^3	Nonattainment	Nonattainment
NO_2	1 hour	0.18 ppm	0.100 ppm[j]	Attainment	Attainment/ Maintenance
NO_2	Annual	0.030 ppm	0.053 ppm	Attainment	Attainment/ Maintenance
SO_2[h]	1 hour	0.25 ppm	0.075 ppm (99th percentile over 3 years)	Attainment	Attainment/ Unclassified
SO_2	3 hours	—	0.5 ppm[i]	—	Attainment/ Unclassified
SO_2	24 hours	0.04 ppm	0.14 ppm (for certain areas)	Attainment	Attainment/ Unclassified
SO_2	Annual	—	0.030 ppm (for certain areas)	—	Attainment/ Unclassified

Table 2.16-3. State and Federal Criteria Air Pollutant Standards and Status

Pollutant	Averaging Time	State Standard[a]	Federal Standard[b]	State Project Attainment Status	Federal Project Area Attainment Status
Pb[j]	Monthly	1.5 µg/m^3	—	Attainment	—
Pb	Calendar Quarter	—	1.5 µg/m^3 (for certain areas)	—	Nonattainment (Los Angeles County only)
Pb	Rolling 3-month average	—	0.15 µg/m^3 [k]	—	Nonattainment (Los Angeles County only)
Sulfates	24 hours	25 µg/m^3	—	Attainment	—
H_2S	1 hour	0.03 ppm	—	Attainment	—
VRP[m]	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 percent	—	Attainment	—
Vinyl Chloride[j]	24 hours	0.01 ppm	—	Attainment	—

Notes:

Adapted from the CARB Air Quality Standards chart (CARB 2016)

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] Federal standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

Table 2.16-3. State and Federal Criteria Air Pollutant Standards and Status

Pollutant	Averaging Time	State Standard[a]	Federal Standard[b]	State Project Attainment Status	Federal Project Area Attainment Status

[c] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. Transportation conformity applies in newly designated nonattainment areas for the 2015 national 8-hour ozone primary and secondary standards on and after August 4th, 2019 (see Transportation Conformity Guidance for 2015 Ozone NAAQS Nonattainment Areas).

[d] Transportation conformity requirements for CO no longer apply after June 1, 2018 for the following California Carbon Monoxide Maintenance Areas (see U.S. EPA CO Maintenance Letter).

[e] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[f] The 65 µg/m^3 $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. Therefore, for areas designated nonattainment or nonattainment/maintenance for the 1997 and or 2006 $PM_{2.5}$ NAAQS, conformity requirements still apply until the NAAQS are fully revoked.

[g] Final 1-hour NO_2 NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause re-designation to nonattainment in some areas after 2016.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[l] Secondary standard, the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

[j] The CARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the CARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

Table 2.16-3. State and Federal Criteria Air Pollutant Standards and Status

Pollutant	Averaging Time	State Standard[a]	Federal Standard[b]	State Project Attainment Status	Federal Project Area Attainment Status

[k] Lead NAAQS are not considered in Transportation Conformity analysis.

[l] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

µg/m^3=micrograms per cubic meter; CO=Carbon Monoxide; H_2S=Hydrogen Sulfide; NO_2=Nitrogen Dioxide; Pb=Lead; PM_{10}=particles of 10 micrometers or smaller; $PM_{2.5}$=particles of 2.5 micrometers or smaller; ppm=parts per million; SO_2=Sulfur Dioxide; VRP=Visibility Reducing Particles

2.16.4 Environmental Consequences

2.16.4.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in the construction of any of the proposed improvements to I-10. Alternative 1 (No-Build Alternative) would maintain the facility in its current condition and, therefore, would not result in temporary adverse impacts on air quality.

Alternative 2 (Build Alternative)

Construction Emissions

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO_3, VOCs, directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants (TAC), such as diesel particulate matter (DPM). Construction activities are expected to increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Under the transportation conformity regulations (40 CFR 93.123(c)(5)), construction-related activities that cause temporary increases in emissions are not required in a hot-spot analysis. These temporary increases in emissions are those that occur only during the construction phase and last 5 years or less at any individual site. They typically fall into two main categories:

- *Fugitive Dust*: A major emission from construction due to ground disturbance. All air districts and the California Health and Safety Code (Sections 41700-41701) prohibit "visible emissions" exceeding 3 minutes in 1 hour – this applies not only to dust but also to engine exhaust. In general, this is interpreted as visible emissions crossing the ROW line.

  Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site may deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

- *Construction Equipment Emissions*: DPM is a California-identified TAC, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

The construction emissions were estimated for the Project using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0. While the model was developed for Sacramento conditions in terms of fleet emission factors, silt loading, and other modeling assumptions, it is considered adequate for estimating road construction emissions by the SCAQMD in its CEQA guidance. The SCAQMD notes that the Road Construction Emissions Model can be used to assist roadway project proponents with determining the emission impacts of its projects (SCAQMD 2019), and is used for that purpose in this analysis. Construction-related emissions for Alternative 2 (Build Alternative) are presented in Table 2.16-4.

Table 2.16-4. Construction Emissions for Alternative 2 – Build Alternative

	PM_{10} (pounds/day)	**$PM_{2.5}$ (pounds/day)**	**CO (pounds/day)**	**NO_x (pounds/day)**	**CO_2e (pounds/day)**
Grubbing/land clearing	30.91	7.01	14.03	22.74	4,546
Grading/excavation	33.19	9.08	51.40	75.11	12,102
Drainage/utilities/ sub-grade	31.87	7.80	33.09	41.14	8,865
Paving	1.03	0.84	20.76	22.15	5,938

Table 2.16-4. Construction Emissions for Alternative 2 – Build Alternative

	PM_{10} (pounds/day)	$PM_{2.5}$ (pounds/day)	CO (pounds/day)	NO_x (pounds/day)	CO_2e (pounds/day)
Maximum daily or average daily	*33.19*	*9.08*	*51.40*	*75.11*	*12,102*
Project total (tons)	**10.98**	**2.87**	**14.88**	**20.49**	**3,742**

Source: Caltrans 2019g

Notes:

CO=carbon monoxide; CO_2e=carbon dioxide equivalent; NO_x=nitrogen oxide; PM_{10}=particles of 10 micrometers or smaller; $PM_{2.5}$=particles of 2.5 micrometers or smaller

The emissions presented above are based on the best information available at the time of calculations and assumes that the schedule for all improvements is anticipated to begin in 2020 and end in 2023. Default equipment assumptions for the Road Construction Emissions Model were used in developing the emissions estimates. The emissions listed in Table 2.16-4 represent the peak daily construction emissions that would be generated by the Project. As the Project construction is expected to last less than 5 years, construction-related emissions were not considered in the conformity analysis.

Project compliance with Caltrans' Standard Specifications in Section 14-9 (2015), some of which may also be required for other purposes, such as stormwater pollution control, would reduce air quality impacts resulting from construction activities. Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

During clearing, grading, earthmoving, or excavation operations, the Project would ensure that fugitive dust emissions would be controlled by regular watering or other dust preventive measures using the following procedures, as specified in SCAQMD Rule 403. All material excavated or graded would be sufficiently watered to prevent excessive amounts of dust. Watering would occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site would be either sufficiently watered or securely covered to prevent excessive amounts of dust. The areas disturbed by clearing, grading, earthmoving, or excavation operations would be minimized so as to prevent excessive amounts of dust. Visible dust

beyond the property line emanating from the Project would be prevented to the maximum extent feasible.

Construction Conformity

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and Project-level conformity analysis (40 CFR 93.123(c)(5)).

Naturally Occurring Asbestos and Structural Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. Asbestos can be released from serpentine and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. The Project is located in San Bernardino County, which is not among the counties listed as containing serpentine and ultramafic rock (California Department of Conservation, Division of Mines and Geology 2000). Therefore, the impact from naturally occurring asbestos during Project construction would be minimal to none.

ACMs in building and bridge structures can also be a health hazard if disturbed. Project construction would require disturbance of Oak Glen Creek Bridge. As discussed in Section 2.15, Hazardous Waste and Materials, an asbestos survey was performed on the Oak Glen Creek Bridges (Bridge No. 54-0648L and 54-0648R). According to the *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f), detectable concentrations of ACMs were found beneath bolts associated with these bridge structures. Any work that would physically impact ACMs would be conducted in accordance with Caltrans' SSP 14-11.16, Asbestos-Containing Construction Materials in Bridges, SCAQMD Rule 1403, and the NESHAP, as provided in Measure HAZ-1 (Section 2.15, Hazardous Waste and Materials). Implementation of Measure HAZ-1 would substantially reduce the likelihood of adverse effects related to temporary impacts associated with ACM during construction.

Lead

Lead is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of ADL or painting or modification of structures with lead-based coatings. As discussed in Section 2.15, Hazardous Waste and Materials, the Project corridor does not appear to be impacted by ADL. In addition, a LBP survey was performed on the Oak Glen Creek Bridges (Bridge No. 54 0648L and 54 0648R). According to the *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f), no surface coatings on the bridges were found to contain lead concentrations that would be defined as LBP. Therefore, lead would not be an issue as long as the Project limits remain unchanged.

Hazardous materials would be properly handled, contained, transported, and disposed of in compliance with applicable regulations and requirements, which may include the RCRA, the FCAA, the CWA, the California DTSC Environmental Health Standards for the Management of Hazardous Waste, the provisions of the San Bernardino County Fire Department Hazardous Materials Division, and USDOT hazardous materials regulations.

The Project would comply with Caltrans' Standard Specifications in Section 14-9 and dust control procedures in SCAQMD Rule 403. Furthermore, implementation of Measures AQ-1 through AQ-3 would minimize construction air quality impacts on nearby sensitive uses. Therefore, Alternative 2 (Build Alternative) would have no substantial temporary impacts on air quality.

2.16.4.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in the construction of any of the proposed improvements to I-10 and, therefore, would not result in permanent adverse impacts on air quality.

Alternative 2 (Build Alternative)

Operational Emissions

For roadway improvement projects, regional emissions are a function of regional VMT and travel speeds. As such, the operational emissions analysis takes into account long-term changes in VMT and travel speeds expected to occur under Alternative 2 (Build Alternative) when compared with Alternative 1 (No-Build Alternative) (excluding the construction phase).

Operational emissions take into account long-term changes in emissions due to the Project (excluding the construction phase). The operational emissions analysis compares forecasted emissions for existing/baseline, Alternative 1 (No-Build Alternative), and Alternative 2 (Build Alternative) using VMT estimates. The regional VMT data for the existing, Alternative 1 (No-Build Alternative), and Alternative 2 (Build Alternative), along with the CARB EMFAC2017 emission rates, were used to calculate the CO, NO_x, PM_{10}, $PM_{2.5}$, and carbon dioxide equivalent (CO_2e) emissions for the existing (2017), 2025, and 2045 conditions. The results of the modeling are summarized in Table 2.16-5.

As shown in Table 2.16-5, with the exception of PM_{10} in 2045, all of the Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative) condition emissions are lower than the existing baseline. When compared with Alternative 1 (No-Build Alternative), Alternative 2 (Build Alternative) would result in a minimal increase in emissions. This is due to roadway network travel speed improvements resulting from operational improvements with implementation of Alternative 2 (Build

Alternative). The reductions from the existing baseline conditions are due to the gradual replacement of older vehicles with those that meet stricter emission standards and efficiencies.

Table 2.16-5. Summary of Comparative Emissions Analysis

Scenario/ Analysis Year	PM_{10} (pounds/day)	$PM_{2.5}$ (pounds/day)	CO (pounds/day)	NO_x (pounds/day)	CO_2e (pounds/day)
Baseline (existing conditions) 2017	120.1	66.1	2,754.4	680.7	719,940
Alternative 1 (No-Build Alternative) 2025	108.7	48.6	1,552.6	306.5	654,705
Alternative 2 (Build Alternative) 2025	109.0	48.7	1,557.2	307.4	656,649
Alternative 1 (No-Build Alternative) 2045	121.0	52.2	1,202.6	273.9	584,691
Alternative 2 (Build Alternative) 2045	125.8	54.3	1,250.3	284.8	607,875

Source: Caltrans 2019g

Notes:

CO=carbon monoxide; CO_2e=carbon dioxide equivalent; NO_x=nitrogen oxide; PM_{10}=particles of 10 micrometers or smaller; $PM_{2.5}$=particles of 2.5 micrometers or smaller

Regional Air Quality Conformity

If a project is not exempt from conformity requirements and is regionally significant (40 CFR 93.101), it must come from a conforming RTP and Transportation Improvement Program (TIP). The Project is

non-exempt, and, as the following paragraph details, it is included in the approved 2020-2045 RTP/SCS (2020 RTP/SCS) and 2019 FTIP.

The Project is listed in the 2020 RTP, which was found to conform by the SCAG Regional Council on May 7, 2020, and FHWA and FTA made a regional conformity determination finding on June 5, 2020. The Project is also included in the financially constrained 2019 FTIP (Project ID: 20179901). The SCAG's 2019 FTIP was found to be conforming by FHWA and FTA on December 17, 2018. The design concept and scope of the Project is consistent with the Project description in the 2020 RTP, 2019 FTIP, and the "open to traffic" assumptions of the SCAG regional emissions analysis. The 2020 RTP and 2019 FTIP listings are included in Appendix F. The Project would also comply with all SCAQMD requirements.

Project-Level Conformity

The Project is located in a federal nonattainment area for $PM_{2.5}$ and in an attainment/maintenance area for PM_{10} and CO; thus, a Project-level hot-spot analysis is required under 40 CFR 93.109. The Project complies with all $PM_{2.5}$ and PM_{10} measures in the SIP and implements measures relied upon in the RTP/TIP regional conformity analysis in a timely matter. As described below, the Project does not cause or contribute to any new localized CO, $PM_{2.5}$, and/or PM_{10} violations or delay timely attainment of any NAAQS or any required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis).

Carbon Monoxide

The CO Protocol was developed for project-level conformity (hot-spot) analysis and was approved for use by the U.S. EPA in 1997. It provides qualitative and quantitative screening procedures, as well as quantitative (modeling) analysis methods, to assess project-level CO impacts. The qualitative screening step is designed to avoid the use of detailed modeling for projects that clearly cannot cause a violation, or worsen an existing violation, of the CO standards. Although the CO Protocol was designed to address federal standards, it has been recommended for use by several air pollution control districts in their CEQA analysis guidance documents and should also be valid for California standards because the key criterion (8-hour concentration) is similar: 9 ppm for the federal standard and 9 ppm for the state standard.

The methodology required for a CO local analysis is summarized in the CO Protocol, Section 3 (Determination of Project Requirements) and Section 4 (Local Analysis). In Section 3, the protocol provides two conformity requirement decision flowcharts that are designed to assist the Project sponsors in evaluating the requirements that apply to specific projects. The Project screens out at Level 7 of the flow chart at Figure 3 in the CO Protocol, as the ambient air quality effects of traffic

emissions were evaluated qualitatively according to the CO Protocol. The Project is not expected to result in any concentrations exceeding the 1-hour or 8-hour CO standards. Therefore, a detailed Caline4 model CO hot-spot analysis is not required.

Particulate Matter

The Project is within a nonattainment area for federal $PM_{2.5}$ standards and within an attainment/maintenance area for the federal PM_{10} standards. Therefore, per 40 CFR, Part 93, analyses are required for conformity purposes. However, the U.S. EPA does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in Section 93.123(b)(1) as an air quality concern. The Project does not qualify as a Project of Air Quality Concern (POAQC) because of the following reasons:

- The Project would expand I-10 through the addition of a TCL. Table 2.16-6 through Table 2.16-8 lists the 2025 and 2045 ADT and truck ADT volumes along the Project corridor for Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative). Table 2.16-6 through Table 2.16-8 also compare the ADT and truck ADT volumes associated with Alternative 2 (Build Alternative) to Alternative 1 (No-Build Alternative). As shown in Table 2.16-7 and Table 2.16-8, although the truck percentages would exceed 8 percent, the Project-related increase in truck ADT would be substantially lower than the 10,000 truck trip criterion for a POAQC at any of the highway links within the Project limits.
- The LOS conditions in the Project vicinity with and without the Project are shown in Table 2.16-9 and Table 2.16-10. Although there are minor increases in the delay in 2025, under Alternative 2 (Build Alternative), all study locations are improved to LOS D or better.
- The Project does not include the construction of a new bus or rail terminal.
- The Project does not expand an existing bus or rail terminal.
- The Project is not in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Therefore, the Project meets the FCAA requirements and 40 CFR 93.116 without any explicit hot-spot analysis. The Project would not create a new, or worsen an existing, PM_{10} or $PM_{2.5}$ violation. The Project-level PM hot-spot analysis was presented to SCAG's Transportation Conformity Working Group for discussion and review on March 26, 2019. The Project was determined not to be a POAQC.

Table 2.16-6. 2025 and 2045 Alternative 1 (No-Build Alternative): Interstate 10 Section Daily Volumes

Section	2025 Volumes			2045 Volumes		
	Total ADT	Truck ADT	Truck (%)	Total ADT	Truck ADT	Truck (%)
Yucaipa Boulevard to Oak Glen Road	135,700	18,900	13.9	174,100	30,700	17.6
Oak Glen Road to Wildwood rest stop	128,500	18,200	14.2	164,900	29,600	17.9
Wildwood rest stop to County Line Road	128,500	18,200	14.2	164,900	29,600	17.9

Source: Caltrans 2019g

Notes:

ADT=average daily traffic

Table 2.16-7. 2025 Alternative 2 (Build Alternative): Interstate 10 Section Daily Volumes

Section	2025 Volumes			Increase from Alternative 1 (No-Build Alternative)		
	Total ADT	Truck ADT	Truck (%)	Total ADT	Truck ADT	Truck (%)
Yucaipa Boulevard to Oak Glen Road	137,800	19,200	13.9	2,100	300	1.5
Oak Glen Road to Wildwood rest stop	130,500	18,500	14.2	2,000	300	1.6
Wildwood rest stop to County Line Road	130,500	18,500	14.2	2,000	300	1.6

Source: Caltrans 2019g

Notes:

ADT=average daily traffic

Table 2.16-8. 2045 Alternative 2 (Build Alternative): Interstate 10 Section Daily Volumes

Section	2045 Volumes			Increase from Alternative 1 (No-Build Alternative)		
	Total ADT	Truck ADT	Truck (%)	Total ADT	Truck ADT	Truck (%)
Yucaipa Boulevard to Oak Glen Road	180,400	31,800	17.6	6,300	1,100	3.5
Oak Glen Road to Wildwood rest stop	170,900	30,600	17.9	6,300	1,000	3.3
Wildwood rest stop to County Line Road	170,900	30,600	17.9	6,300	1,000	3.3

Source: Caltrans 2019g

Notes:

ADT=average daily traffic

Table 2.16-9. 2025 Freeway Operations

I-10 EB Segment		Type	AM Peak Hour				PM Peak Hour			
			Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
1	Yucaipa Boulevard on-ramp	Merge	10	B	13	B	22	C	27	C
2	Yucaipa Boulevard to down grade start	Basic	13	B	14	B	23	C	26	C
3	Down grade start to Live Oak Canyon Road	Basic	13	B	14	B	23	C	26	C

Table 2.16-9. 2025 Freeway Operations

I-10 EB Segment		Type	AM Peak Hour				PM Peak Hour			
			Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
4	Live Oak Canyon Road off-ramp	Basic[3]/ diverge	14	B	11	B	25	C	22	C
5	Live Oak Canyon Road off-ramp to on-ramp	Basic	14	B	12	B	24	C	20	C
6	Live Oak Canyon Road on-ramp	Merge	16	B	10	B	33	D	20	B
7	Live Oak Canyon Road to rest area	Basic	18	B	13	B	30	D	23	C
8	Ret area off-ramp	Diverge	16	B	11	B	29	D	21	C
9	Rest area off-ramp to on-ramp	Basic	18	B	13	B	30	D	23	C
10	Rest area on-ramp	Merge	16	B	11	B	34	D	22	C
11	Rest Area to County Line Road	Basic	19	B	15	B	32	D	26	C
12	County Line Road off-ramp	Diverge	16	B	10	B	33	D	22	C
13	County Line Road off-ramp to up grade end	Basic	18	B	17	B	26	C	30	D
14	Up grade end to County Line Road on-ramp	Basic	17	B	17	B	25	C	28	D

Table 2.16-9. 2025 Freeway Operations

I-10 EB Segment		Type	AM Peak Hour				PM Peak Hour			
			Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
15	County Line Road on-ramp	Merge	14	B	15	B	26	C	30	D

Source: Caltrans 2018a

Notes:

[1] Density is reported vehicles per lane per mile.

[2] Estimate average grade for the analysis segment.

[3] Since the location has a lane drop at the off-ramp, the location is a basic segment according to the HCM.

EB=eastbound; HCM=Highway Capacity Manual; LOS=level of service

Table 2.16-10. 2045 Freeway Operations

I-10 EB Segment		Type	AM Peak Hour				PM Peak Hour			
			Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
1	Yucaipa Boulevard on-ramp	Merge	17	B	20	C	66	**F**	32	D
2	Yucaipa Boulevard to down grade start	Basic	21	C	21	C	72	**F**	30	D
3	Down grade start to Live Oak Canyon Road	Basic	20	C	21	C	71	**F**	29	D
4	Live Oak Canyon Road off-ramp	Basic[3]/ diverge	21	C	17	B	77	**F**	23	C

Table 2.16-10. 2045 Freeway Operations

I-10 EB Segment		Type	AM Peak Hour				PM Peak Hour			
			Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
5	Live Oak Canyon Road off-ramp to on-ramp	Basic	21	C	17	B	76	**F**	23	C
6	Live Oak Canyon Road on-ramp	Merge	23	C	15	B	66	**F**	25	C
7	Live Oak Canyon Road to rest area	Basic	26	C	19	B	48	**F**	27	C
8	Rest area off-ramp	Diverge	26	C	17	B	52	**F**	30	D
9	Wildwood Canyon Road off-ramp	Basic	28	D	17	B	51	**F**	30	D
10	Rest area on-ramp	Merge	25	C	19	B	40	**E**	28	D
11	Rest area to County Line Road	Basic	24	C	15	B	53	**F**	31	D
12	County Line Road off-ramp	Diverge	19	B	16	B	30	D	25	C
13	County Line Road off-ramp to up grade end	Basic	25	C	19	B	33	D	28	C
14	Up grade end to County Line Road on-ramp	Basic	21	C	19	B	23	C	26	C

Table 2.16-10. 2045 Freeway Operations

I-10 EB Segment		Type	AM Peak Hour				PM Peak Hour			
			Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
			Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
15	County Line Road on-ramp	Merge	18	B	14	B	22	C	25	C

Source: Caltrans 2018a

Notes:

[1] Density is reported vehicles per lane per mile.

[2] Estimate average grade for the analysis segment.

[3] Since the location has a lane drop at the off-ramp, the location is a basic segment according to the HCM.

[4] **Bold** font indicates unacceptable LOS E or F conditions.

EB=eastbound; HCM=Highway Capacity Manual; LOS=level of service

Mobile Source Air Toxics

FHWA released updated guidance (FHWA 2016) for determining when and how to address mobile source air toxic (MSAT) impacts in the NEPA process for transportation projects. FHWA identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful MSAT effects
- Qualitative analysis for projects with low potential MSAT effects
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects

Projects with no impacts generally include those that qualify as a categorical exclusion under 23 CFR 771.117, qualify as exempt under the FCAA conformity rule under 40 CFR 93.126, and are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix. With respect to the Project, the projected maximum average ADT volumes in the horizon year 2045 would be above the 140,000 to 150,000 average ADT volumes criterion established by FHWA for projects considered to have higher potential for MSAT effects. According to FHWA guidance, “projects with higher potential MSAT effects” have the potential for meaningful differences in VMT and related MSAT emissions among project alternatives.

MSAT emissions were estimated for the existing conditions (2017), 2025 Alternative 1 (No-Build Alternative), 2025 Alternative 2 (Build Alternative), 2045 Alternative 1 (No-Build Alternative), and 2045 Alternative 2 (Build Alternative). Emissions factors for each of the MSATs were obtained for the Project limits using emission rates generated by CT-EMFAC2017 and the VMT associated with each of the Project alternatives. The modeling results are presented in Table 2.16-11.

The analysis indicates that a substantial decrease in MSAT emissions can be expected between the existing (2017) and future (2025 and 2045) Alternative 1 (No-Build Alternative) conditions. The reductions from the existing baseline conditions are due to the gradual replacement of older vehicles with those that meet stricter emission standards and efficiencies. The decrease in MSAT emissions is prevalent throughout the highest priority MSATs and the analyzed alternatives. As shown in Table 2.16-11, when compared with Alternative 1 (No-Build Alternative), 2025 and 2045 Alternative 2 (Build Alternative) MSAT emissions would remain unchanged or would increase by 0.1 pound per day. Thus, Alternative 2 (Build Alternative) would not have substantial adverse impacts with regards to MSAT pollutants.

In conclusion, Alternative 2 (Build Alternative) would have no substantial permanent impacts on air quality and would not result in substantial adverse impacts on air quality.

Table 2.16-11. Summary of Comparative Mobile Source Air Toxic Emissions Analysis

Scenario/ Analysis Year	1,3-butadiene (pounds/day)	Acetaldehyde (pounds/day)	Acrolein (pounds/ day)	Benzene (pounds/ day)	DPM (pounds/ day)	Ethylbenzene (pounds/ day)	Formaldehyde (pounds/ day)	Naphthalene (pounds/ day)	Polycyclic organic matter (pounds/ day)
Existing conditions (2017)	0.6	3.1	0.1	4.2	13.9	2.9	7.1	0.2	0.2
Alternative 1 (No-Build Alternative) 2025	0.3	0.6	0.1	2.0	2.1	1.8	1.5	0.2	0.0
Alternative 2 (Build Alternative) 2025	0.3	0.6	0.1	2.0	2.2	1.8	1.5	0.2	0.0
Alternative 1 (No-Build Alternative) 2045	0.2	0.5	0.0	1.2	2.0	1.0	1.2	0.1	0.0
Alternative 2 (Build Alternative) 2045	0.2	0.5	0.0	1.3	2.1	1.1	1.2	0.1	0.0

Source: Caltrans 2019g

Notes:

DPM=diesel particulate matter

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2.16.5 Avoidance, Minimization, and/or Mitigation Measures

The following measures will be implemented to avoid and/or minimize Project impacts on air quality during construction:

AQ-1 During construction, SBCTA will ensure that equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.

AQ-2 Prior to construction, SBCTA will ensure that environmentally sensitive areas (ESA) will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.

AQ-3 During construction, SBCTA will ensure, to the extent feasible, that construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

2.16.6 Climate Change

Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the Project.

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2.17 Noise

2.17.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

2.17.1.1 California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

2.17.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibel [dBA]) is lower than the NAC for commercial areas (72 dBA). Table 2.17-1 lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis. Figure 2.17-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Table 2.17-1. Noise Abatement Criteria

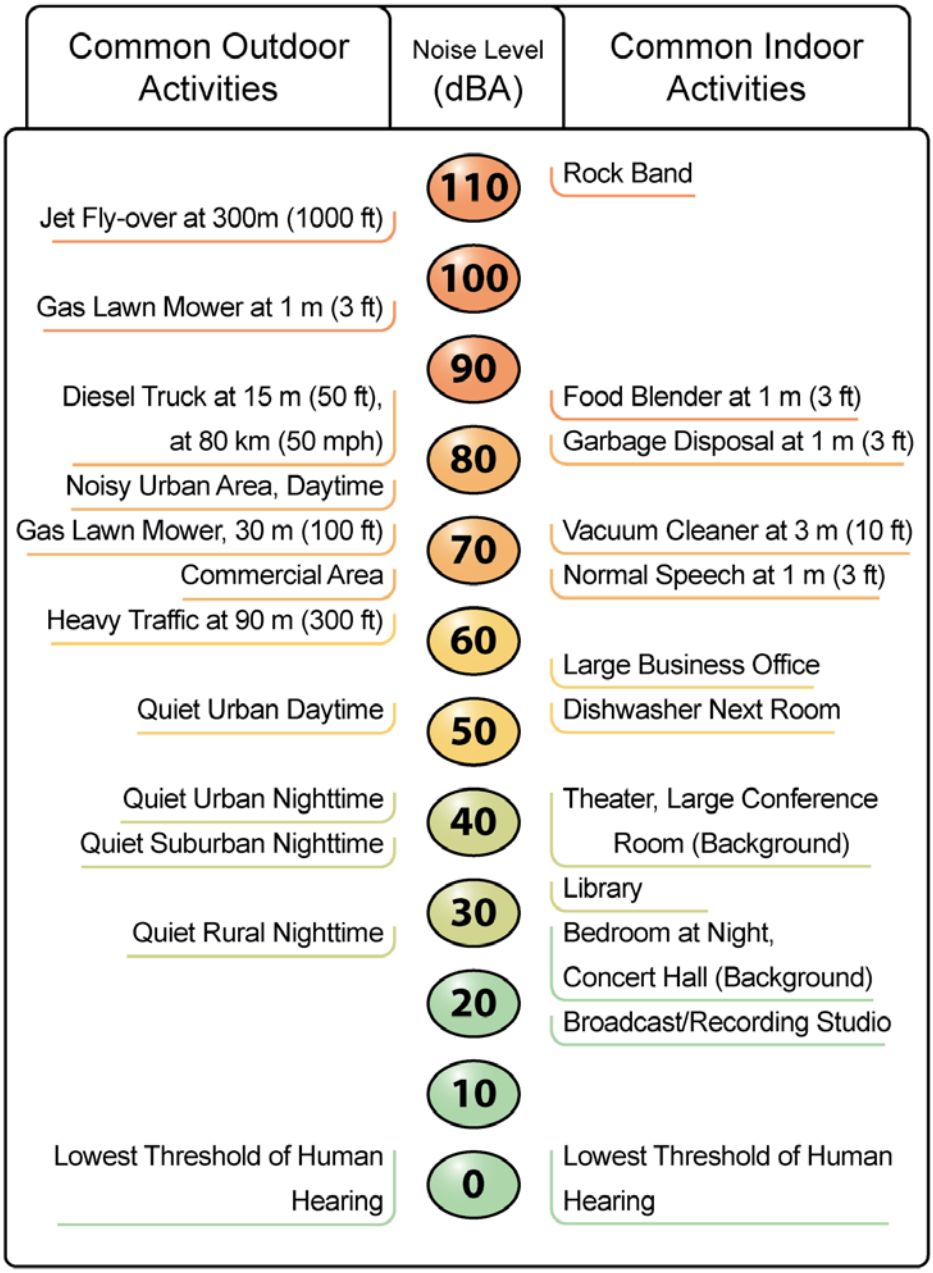
Activity Category	NAC, Hourly A- Weighted Noise Level, $L_{eq}(h)$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

Notes:

[1] Includes undeveloped lands permitted for this activity category.

$L_{eq}(h)$=hourly equivalent noise level; NAC=noise abatement criteria

Figure 2.17-1. Noise Levels of Common Activities



According to the Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects* (Protocol) (Caltrans 2011b), a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This section discusses noise abatement measures that would likely be incorporated in the Project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

2.17.2 Affected Environment

This section is based on the *Noise Study Report* (NSR) (Caltrans 2020a) and the *Noise Abatement Decision Report* (NADR) (Caltrans 2020b) prepared for the Project. The NSR modeled and evaluated existing and future traffic noise levels in noise-sensitive areas within the Project boundaries. As part of the NSR, traffic noise was evaluated under existing conditions (2017), Design Year Alternative 1 (No-Build Alternative) conditions (2045), and Design Year conditions with Alternative 2 (Build Alternative) (2045). The NADR summarizes the conclusions of the NSR, provides cost estimates for potential noise abatement, and evaluates non-acoustical feasibility issues.

2.17.2.1 Surrounding Land Use and Sensitive Receptors

A field visit was conducted prior to noise monitoring to identify land uses that could be subject to traffic and construction noise impacts from the Project. The following land uses were identified: residential, commercial/industrial, industrial, retail, restaurant, recreational, park, playground, and utilities. These land uses were categorized by land use type, activity category (Table 2.17-1), and the frequency of human use. As stated in the Protocol, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards.

Short-term measurement locations were selected to represent noise-sensitive land uses within the Project limits. One long-term monitoring location was measured to identify the loudest hour throughout the day.

A total of 16 short-term measurement locations, shown on Figure 2.17-2, were selected to represent noise-sensitive land uses in the Project vicinity. Sensitive noise receptors surrounding the Project limits include residential uses and recreational uses. The selected noise measurement locations were representative of outdoor frequent human use areas associated with existing single-family and multi-family residences, as well as a park, a baseball field, the Wildwood SRRA, and one commercial one retail property.

2.17.2.2 Existing Noise Environment

The primary source of noise in the Project area is traffic along I-10. Secondary noise also emanates from the local street traffic on the surface streets.

Noise Measurement Results

The existing noise environment in the area surrounding the Project limits is determined based on short-term and long-term (24-hour) noise level measurements.

Short-Term Monitoring

Short-term monitoring was conducted at 16 locations, May 23, 2018, May 24, 2018, and June 6, 2018. The short-term monitoring was conducted at Activity Category B, C, F, and G land uses. Short-term measurement locations were selected to be representative of noise sensitive uses in the Project area. Table 2.17-2 shows the results of the short-term noise level measurements. The short-term noise measurement locations are shown on Figure 2.17-2.

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SOURCE: Google Earth Pro Aerial, March 2018

LEGEND

- Modeled Receptor Locations
- Short-term Noise Measurement and Modeling Locations
- Short-term Measurement, Long-term Measurement, and Noise Modeling Locations
- Acoustically Equivalent Noise Measurement Location
- Right of Way
- Potential Barrier Locations

0 Feet 200

NOTE: Barrier locations are approximate and are not drawn to scale.

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.17-2. Modeled Receptor Locations (Sheet 1 of 7)

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SOURCE: Google Earth Pro Aerial, March 2018

LEGEND

- Modeled Receptor Locations
- Short-term Noise Measurement and Modeling Locations
- Short-term Measurement, Long-term Measurement, and Noise Modeling Locations
- Acoustically Equivalent Noise Measurement Location
- Right of Way
- Potential Barrier Locations

0 Feet 200

NOTE: Barrier locations are approximate and are not drawn to scale.

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.17-2. Modeled Receptor Locations (Sheet 2 of 7)

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SOURCE: Google Earth Pro Aerial, March 2018

LEGEND

- Modeled Receptor Locations
- Short-term Noise Measurement and Modeling Locations
- Short-term Measurement, Long-term Measurement, and Noise Modeling Locations
- Acoustically Equivalent Noise Measurement Location
- Right of Way
- Potential Barrier Locations

0 Feet 200

NOTE: Barrier locations are approximate and are not drawn to scale.

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.17-2. Modeled Receptor Locations (Sheet 3 of 7)

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SOURCE: Google Earth Pro Aerial, March 2018

LEGEND

- Modeled Receptor Locations
- Short-term Noise Measurement and Modeling Locations
- Short-term Measurement, Long-term Measurement, and Noise Modeling Locations
- Acoustically Equivalent Noise Measurement Location
- Right of Way
- Potential Barrier Locations

0 Feet 200

NOTE: Barrier locations are approximate and are not drawn to scale.

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.17-2. Modeled Receptor Locations (Sheet 4 of 7)

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SOURCE: Google Earth Pro Aerial, March 2018

LEGEND

- Modeled Receptor Locations
- Short-term Noise Measurement and Modeling Locations
- Short-term Measurement, Long-term Measurement, and Noise Modeling Locations
- Acoustically Equivalent Noise Measurement Location
- Right of Way
- Potential Barrier Locations

0 Feet 200

NOTE: Barrier locations are approximate and are not drawn to scale.

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.17-2. Modeled Receptor Locations (Sheet 5 of 7)

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SOURCE: Google Earth Pro Aerial, March 2018

LEGEND

- Modeled Receptor Locations
- Short-term Noise Measurement and Modeling Locations
- Short-term Measurement, Long-term Measurement, and Noise Modeling Locations
- Acoustically Equivalent Noise Measurement Location
- Right of Way
- Potential Barrier Locations

0 Feet 200

NOTE: Barrier locations are approximate and are not drawn to scale.

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.17-2. Modeled Receptor Locations (Sheet 6 of 7)

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SOURCE: Google Earth Pro Aerial, March 2018

LEGEND

- Modeled Receptor Locations
- Short-term Noise Measurement and Modeling Locations
- Short-term Measurement, Long-term Measurement, and Noise Modeling Locations
- Acoustically Equivalent Noise Measurement Location
- Right of Way
- Potential Barrier Locations

0 Feet 200

NOTE: Barrier locations are approximate and are not drawn to scale.

08-SBD-10 PM 36.4/R39.2 &
08-RIV-10 PM R0.0/R0.2
EA 1F7600
I-10 Eastbound TCL Improvement Project

Figure 2.17-2. Modeled Receptor Locations (Sheet 7 of 7)

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Table 2.17-2. Short-Term Noise Measurement Results

Receptor	Address	Land Use	First Measurement, dBA L_{eq}	Second Measurement, dBA L_{eq}	Average Measured dBA L_{eq}
ST-1	31951 Outer Highway 10, Yucaipa, California 92399	Residential	**70.9**	69.9	70.4
ST-2	32194 Outer Highway 10, Yucaipa, California 92399	Commercial/ Industrial	**68.2**	69.5	68.9
ST-3[a]	32600 Outer Highway 10, Yucaipa, California 92399	Agriculture	**68.3**	67.7	68.0
ST-4	—	Rest Area	**65.8**	65.6	65.7
ST-5[a]	33842 County Line Lane, Calimesa, California 92320-1072	Residential	**63.5**	61.2	62.4
ST-6	975 7th Place, Calimesa, California 92320-1015	Residential	**60.2**	57.6	58.9
ST-7	637 W Avenue Lane, Calimesa, California 92320	Residential	**69.9**	71.3	70.6
ST-8[a]	13676 Calimesa Boulevard, Yucaipa, California 92399-2356	Residential	**64.2**	44.7[b]	64.2[b]
ST-9[a]	13551 Calimesa Boulevard, Yucaipa, California 92399-2301	Residential	**65.1**	62.5	63.8
ST-10	33600 Calimesa Boulevard, Yucaipa, California 92399-2164	Residential	**62.1**	62.6	62.4
ST-11/ LT-1			70.9	**70.1**	70.5
ST-12	33328 Calimesa Boulevard, Yucaipa, California 92399	Retail	**68.2**	68.8	68.5

Table 2.17-2. Short-Term Noise Measurement Results

Receptor	Address	Land Use	First Measurement, dBA L_{eq}	Second Measurement, dBA L_{eq}	Average Measured dBA L_{eq}
ST-13	32367 Dunlap Boulevard, Yucaipa, California 92399-1724	Residential	**68.7**	69.3	69.0
ST-14	32195 Outer Highway 10, Yucaipa, California 92399	Industrial	**61.7**	59.8	60.8
ST-15	12691 16th Street, Yucaipa, California 92399-1751	Residential	60.7	63.1	**61.9**[c]
ST-16[a]	12624 17th Street, Yucaipa, California 92399-1661	Recreational	64.2	65.0	**64.6**[c]

Source: Caltrans 2020a

Notes:

Bold text indicates the noise measurement used to calibrate TNM 2.5.

[a] Due to lack of site access, these noise measurement locations were taken at an acoustically equivalent location.

[b] This noise measurement is void due to an error in the noise recording experienced May 24, 2018.

[c] Due to variable acoustical conditions experienced at this location during field measurements, this sound level measurement was calibrated using the average of two consecutive 10-minute noise measurements taken June 6, 2018.

dBA=A-weighted decibel; L_{eq}=equivalent noise level; TNM=Traffic Noise Model

Long-Term Monitoring

Long-term monitoring was conducted at one location (LT-1), the Hillcrest Mobile Estates (located at 33600 Calimesa Boulevard, Yucaipa, California, 92399), approximately 85 feet north of I-10 (). The long-term monitoring was conducted using a Larson Davis SoundExpert LxT Class 1 sound level meter (SLM). The purpose of this measurement was to identify variations in sound levels throughout the day. Long-term sound level data was collected over a 24-hour period, beginning May 23, 2018, and ending May 24, 2018. The peak ambient noise level, representing conditions with high traffic volumes and free-flow vehicle speeds, was 74.2 dBA at 6 a.m. Table 2.17-3 summarizes the remaining results of the long-term monitoring at location LT-1.

Table 2.17-3. Summary of Long-Term Monitoring at Location LT-1

Start Time	Average Noise Level, $L_{eq}(h)$, dBA	Difference from Loudest Hour, dBA
10:00 a.m.	73.0	-1.2
11:00 a.m.	73.3	-0.9
12:00 a.m.	73.1	-1.1
1:00 p.m.	73.0	-1.2
2:00 p.m.	73.2	-1.0
3:00 p.m.	73.4	-0.8
4:00 p.m.	73.3	-0.9
5:00 p.m.	73.2	-1.0
6:00 p.m.	72.6	-1.6
7:00 p.m.	71.7	-2.5
8:00 p.m.	70.8	-3.4
9:00 p.m.	70.4	-3.8
10:00 p.m.	69.7	-4.5
11:00 p.m.	68.4	-5.7
12:00 a.m.	67.0	-7.2
1:00 a.m.	66.1	-8.1
2:00 a.m.	67.0	-7.2
3:00 a.m.	67.9	-6.3
4:00 a.m.	70.4	-3.8
5:00 a.m.	72.3	-1.9

Table 2.17-3. Summary of Long-Term Monitoring at Location LT-1

Start Time	Average Noise Level, $L_{eq}(h)$, dBA	Difference from Loudest Hour, dBA
6:00 a.m.	**74.2**	0.0
7:00 a.m.	70.9	-3.3
8:00 a.m.	73.4	-0.8
9:00 a.m.	73.7	-0.5

Source: Caltrans 2020a

Notes:
Bold number represents peak ambient noise hour.
dBA=A-weighted decibel; $L_{eq}(h)$=hourly equivalent noise level

Existing Noise Levels

The worst-case traffic volumes and posted vehicle speeds were coded into Traffic Noise Model (TNM) 2.5 with existing roadway conditions. The results of the existing traffic noise modeling are shown in Table 2.17-4. The noise analysis focuses on locations with defined outdoor activity areas, such as residential backyards, patios and balconies, and common use areas at multi-family residences. These sites are chosen to be representative of frequent outdoor use areas. Figure 2.17-2 shows the locations of the modeled receptors.

Table 2.17-4. Modeled Existing and Future Noise Levels

Modeled Receptor No.	Address[a]	Land Use Type	Future Worst Hour Noise Levels - $L_{eq}(h)$, dBA							
			Measured Noise Level	Modeled Existing Noise Level, $L_{eq}(h)$, dBA	Future No-Build, $L_{eq}(h)$, dBA	Future Build, $L_{eq}(h)$, dBA	Future No-Build Minus Existing Conditions, $L_{eq}(h)$, dBA	Future Build Minus Future No-Build Conditions, $L_{eq}(h)$, dBA	Activity Category	NAC, $L_{eq}(h)$, dBA
ST-1	31951 Outer Highway 10, Yucaipa, California 92399	Residential	70.4	70	71	71	1	0	B	67
ST-2	32194 Outer Highway 10, Yucaipa, California 92399	Commercial/ Industrial	68.9	70	72	71	2	-1	F	—[b]
ST-3	32600 Outer Highway 10, Yucaipa, California 92399	Agriculture	68.0	76	76	76	0	0	F	—
ST-4	—	Rest Area	65.7	66	67	67	1	0	G	—
ST-5	33842 County Line Lane, Calimesa, California 92320-1072	Residential	62.4	67	69	69	2	0	B	67
ST-6	975 7th Place, Calimesa, California 92320-1015	Residential	58.9	67	69	69	2	0	B	67
ST-7	637 W Avenue L, Calimesa, California 92320	Residential	70.6	69	71	70	2	-1	B	67
ST-8	13676 Calimesa Boulevard, Yucaipa, California 92399-2356	Residential	64.2	61	63	63	2	0	B	67
ST-9	13551 Calimesa Boulevard, Yucaipa, California 92399-2301	Residential	65.1	67	70	69	3	-1	B	67
ST-10	33600 Calimesa Boulevard, Yucaipa, California 92399-2164	Residential	62.1	69	72	72	3	0	B	67
ST-11/ LT-1		Residential	70.5	75	76	76	1	0	B	67
ST-12	33328 Calimesa Boulevard Yucaipa, California 92399	Retail	68.5	70	72	71	2	-1	F	—
ST-13	32367 Dunlap Boulevard, Yucaipa, California 92399-1724	Residential	69	74	75	75	1	0	B	67
ST-14	32195 Outer Highway 10, Yucaipa, California 92399	Industrial	60.8	64	66	66	2	0	F	—
ST-15	12691 16th Street, Yucaipa, California 92399-1751	Residential	61.9	64	67	67	2	0	B	67
ST-16	12624 17th Street, Yucaipa, California 92399-1661	Recreational	64.6	70	71	71	1	0	C	67
1	12742 17th Street, Redlands, California 92373-7538	Residential	—	64	66	66	2	0	B	67

Table 2.17-4. Modeled Existing and Future Noise Levels

Modeled Receptor No.	Address[a]	Land Use Type	Future Worst Hour Noise Levels - $L_{eq}(h)$, dBA							
			Measured Noise Level	Modeled Existing Noise Level, $L_{eq}(h)$, dBA	Future No-Build, $L_{eq}(h)$, dBA	Future Build, $L_{eq}(h)$, dBA	Future No-Build Minus Existing Conditions, $L_{eq}(h)$, dBA	Future Build Minus Future No-Build Conditions, $L_{eq}(h)$, dBA	Activity Category	NAC, $L_{eq}(h)$, dBA
2	12750 17th Street, Redlands, California 92373-7538	Residential	—	58	60	60	2	0	B	67
3	12741 17th Street, Redlands, California 92373-7539	Residential	—	65	66	66	1	0	B	67
4	12749 17th Street, Redlands, California 92373-7560	Residential	—	62	63	64	1	1	B	67
5	12761 17th Street, Redlands, California 92373-7539	Residential	—	62	64	64	2	0	B	67
6	32019 Outer Highway 10, Yucaipa, California 92399	Residential	—	58	59	59	1	0	B	67
7	12804 16th Street, Redlands, California 92373-7532	Residential	—	55	56	57	1	1	B	67
8	32194 Outer Highway 10, Yucaipa, California 92399	Commercial/ Industrial	—	70	72	71	2	-1	F	—
9	32400 Outer Highway 10, Yucaipa, California 92399	Vacant Lot	—	72	74	74	2	0	G	—
10		Vacant Lot	—	75	76	77	1	1	G	—
11	13530 7th Place, Yucaipa, California 92399-7300	Residential	—	55	57	56	2	-1	B	67
12	33808 County Line Lane, Yucaipa, California 92399	Residential	—	66	67	67	1	0	B	67
13	727 County Line Lane, Calimesa, California 92320-1071	Residential	—	62	63	63	1	0	B	67
14	948 7th Place, Calimesa, California 92320	Residential	—	55	57	56	2	-1	B	67
15	950 7th Place, Calimesa, California 92320	Park	—	61	62	62	1	0	C	67
16	991 7th Place, Calimesa, California 92320-1015	Residential	—	63	64	64	1	0	B	67
17	975 7th Place, Calimesa, California 92320-1015	Residential	—	65	66	67	1	1	B	67
18	623 W Avenue L, Calimesa, California 92320	Residential	—	71	72	71	1	-1	B	67

Table 2.17-4. Modeled Existing and Future Noise Levels

Modeled Receptor No.	Address[a]	Land Use Type	Future Worst Hour Noise Levels - $L_{eq}(h)$, dBA							
			Measured Noise Level	Modeled Existing Noise Level, $L_{eq}(h)$, dBA	Future No-Build, $L_{eq}(h)$, dBA	Future Build, $L_{eq}(h)$, dBA	Future No-Build Minus Existing Conditions, $L_{eq}(h)$, dBA	Future Build Minus Future No-Build Conditions, $L_{eq}(h)$, dBA	Activity Category	NAC, $L_{eq}(h)$, dBA
19	637 W Avenue L, Calimesa, California 92320	Residential	—	73	74	74	1	0	B	67
20		Residential	—	65	66	66	1	0	B	67
21	625 Avenue K, Calimesa, California 92320-1114	Residential	—	61	62	61	1	-1	B	67
22	950 Calimesa Boulevard, Calimesa, California 92320-1121	Restaurant	—	58	59	59	1	0	E	72
23	33940 County Line Road, Yucaipa, California 92399	Restaurant	—	65	68	67	3	-1	E	72
24	13672 Calimesa Boulevard, Yucaipa, California 92399-2356	Playground	—	57	58	58	1	0	C	67
25	13678 Calimesa Boulevard, Yucaipa, California 92399-2356	Residential	—	59	60	60	1	0	B	67
26	13400 Calimesa Boulevard, Yucaipa, California 92399-2359	Industrial	—	74	75	75	1	0	F	—
27	33600 Calimesa Boulevard, Yucaipa, California 92399-2164	Residential	—	70	73	73	3	0	B	67
28				70	73	73	3	0	B	67
29				72	74	73	2	-1	B	67
30				71	72	72	1	0	B	67
31				66	68	67	2	-1	B	67
32				75	77	77	2	0	B	67
33				44	46	46	2	0	B	67
34				60	62	61	2	-1	B	67
35				57	58	58	1	0	B	67

Table 2.17-4. Modeled Existing and Future Noise Levels

Modeled Receptor No.	Address[a]	Land Use Type	Future Worst Hour Noise Levels - $L_{eq}(h)$, dBA							
			Measured Noise Level	Modeled Existing Noise Level, $L_{eq}(h)$, dBA	Future No-Build, $L_{eq}(h)$, dBA	Future Build, $L_{eq}(h)$, dBA	Future No-Build Minus Existing Conditions, $L_{eq}(h)$, dBA	Future Build Minus Future No-Build Conditions, $L_{eq}(h)$, dBA	Activity Category	NAC, $L_{eq}(h)$, dBA
36				57	58	58	1	0	B	67
37				59	60	60	1	0	B	67
38				61	62	62	1	0	B	67
39				67	69	69	2	0	B	67
40	33328 Calimesa Boulevard, Yucaipa, California 92399	Retail	—	70	72	71	2	-1	F	—
41	—	Utilities	—	70	72	72	2	0	F	—
42	32555 Dunlap Boulevard Yucaipa, California 92399-1774	Commercial	—	69	70	69	1	-1	F	—
43	12930 14th Street, Yucaipa, California 92399-1824	Residential	—	62	64	63	2	-1	B	67
44	12940 14th Street, Yucaipa, California 92399-1824	Residential	—	64	66	65	2	-1	B	67
45	32407 Dunlap Boulevard, Yucaipa, California 92399-1726	Commercial	—	66	67	67	1	0	F	—
46	32371 Dunlap Boulevard, Yucaipa, California 92399-1724	Residential	—	63	64	64	1	0	B	67
47	32367 Dunlap Boulevard, Yucaipa, California 92399-1724	Residential	—	64	65	65	1	0	B	67
48		Residential	—	77	78	78	1	0	B	67
49		Residential	—	70	71	71	1	0	B	67
50		Residential	—	67	69	68	1	-1	B	67
51	32271 Dunlap Boulevard, Yucaipa, California 92399-1722	Residential	—	63	65	64	2	-1	B	67
52	12685 16th Street, Yucaipa, California 92399-1751	Residential	—	59	60	60	1	0	B	67

Table 2.17-4. Modeled Existing and Future Noise Levels

Modeled Receptor No.	Address[a]	Land Use Type	Future Worst Hour Noise Levels - $L_{eq}(h)$, dBA							
			Measured Noise Level	Modeled Existing Noise Level, $L_{eq}(h)$, dBA	Future No-Build, $L_{eq}(h)$, dBA	Future Build, $L_{eq}(h)$, dBA	Future No-Build Minus Existing Conditions, $L_{eq}(h)$, dBA	Future Build Minus Future No-Build Conditions, $L_{eq}(h)$, dBA	Activity Category	NAC, $L_{eq}(h)$, dBA
53	12621 17th Street, Yucaipa, California 92399-1662	Residential	—	58	59	59	1	0	B	67
54	12619 17th Street, Yucaipa, California 92399-1662	Residential	—	56	58	58	2	0	B	67
55	12609 17th Street, Yucaipa, California 92399-1662	Residential	—	56	57	57	1	0	B	67
56	12624 17th Street, Yucaipa, California 92399-1661	Recreational	—	62	63	63	1	0	C	67
57		Residential	—	68	69	69	1	0	B	67
58		Recreational	—	70	72	72	2	0	C	67
59	13600 Calimesa Boulevard, Calimesa, California 92320	Industrial	—	73	75	74	2	-1	F	—
60	33600 Calimesa Blvd, Yucaipa, California 92399	Residential	—	73	74	74	1	0	B	67

Source: Caltrans 2020a

Notes:

[a] Property data obtained from CoreLogic RealQuest Property database (2019).

[b] Noise Abatement Category F and G do not have NAC levels, but the existing areas were modeled as required by the Protocol.

dBA=A-weighted decibel; $L_{eq}(h)$=1-hour equivalent continuous sound level; NAC=noise abatement criteria; No.=number

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2.17.3 Environmental Consequences

A Type I project is defined in 23 CFR 772 as a proposed federal or federal aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway, which changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. The Project is a federally funded Type I project according to 23 CFR 772 because it would extend the TCL on EB I-10 from its current terminus at the existing EB off-ramp to the Live Oak interchange to just east of the County Line Road EB off-ramp at the San Bernardino County and Riverside County line. A noise analysis is required for all Type I projects. The noise analysis was conducted in accordance with FHWA and Caltrans guidelines to determine whether the Project noise levels would approach or exceed the NAC or would substantially exceed existing noise levels (23 CFR 772). If noise levels would approach or exceed the NAC, or result in a substantial increase, noise abatement measures that are used to reduce noise levels would be evaluated.

2.17.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

There would be no construction activities under Alternative 1 (No-Build Alternative). Therefore, there would be no temporary noise impacts under Alternative 1 (No-Build Alternative).

Alternative 2 (Build Alternative)

Two types of short-term noise impacts would occur during Project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the Project site. The actions would incrementally raise noise levels on access roads leading to the site. The pieces of heavy equipment for grading and construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the Project vicinity. Thus, as projected construction traffic would be short term, construction-related worker commutes and equipment transport noise impacts would not be adverse.

The second type of short-term noise impact is related to noise generated during roadway construction activities. Grading and equipment operations would be conducted between the hours of 7 a.m. and 8 p.m. Monday through Saturday, according to Yucaipa Municipal Code Section 15.12.210, to the extent practicable. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels along the Project alignment as construction progresses. Table 2.17-5 lists typical construction equipment commonly

used on roadway construction projects, based on distances of 50, 80 and 100 feet between the equipment and a noise receptor.

Table 2.17-5. Typical Construction Equipment Noise Levels

Type of Equipment	Maximum Noise Levels (dBA at 50 feet)	Maximum Noise Levels (dBA at 80 feet)	Maximum Noise Levels (dBA at 100 feet)
Scrapers	89	85	83
Bulldozers	85	81	79
Heavy trucks	88	84	82
Backhoe	80	76	74
Pneumatic tools	85	81	79
Concrete pump	82	78	76

Source: FTA 2006

Notes:

dBA=A-weighted decibel

Noise produced by scrapers is expected to generate noise levels up to 83 dBA at 100 feet and 89 dBA at 50 feet, as described in Table 2.17-5. As noise produced by construction equipment would be increased with less distance at a rate of about 6 dBA per halving of distance, construction equipment is expected to generate noise levels of up to 95 dBA at a distance of 25 feet.

Project construction activities have the potential to generate groundborne vibration with the use of heavy equipment. Construction equipment such as vibratory compaction rollers, demolitions, or pavement braking may cause intermittent localized concern from vibration in the Project area. No building structures would be disturbed by the Project from groundborne vibration. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14-8, Noise and Vibration, regarding specifications for controlling noise and vibration. Additionally, construction vibration impacts would be minimized through implementation of Measure N-1 (Section 2.17.4.1), which would involve restricting hours of vibration-intensive activities and monitoring of these vibration-intensive activities.

The closest sensitive receptor, modeled receptor 48, is comprised of residential uses located approximately 80 feet north of the Project construction area. Thus, receptor locations could be subject to short-term noise between approximately 76 and 85 dBA maximum noise level (L_{max}) generated by construction activities along the Project alignment (Table 2.17-5). However, no adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14-8, Noise and Vibration, and applicable local noise standards.

Furthermore, as provided in Section 2.17.4.1, implementation of Measures N-2 and N-3 would minimize the temporary noise impacts from construction. These measures involve use of sound-control devices and minimizing of construction equipment idling.

2.17.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Under Alternative 1 (No-Build Alternative), long-term noise impacts would occur from traffic noise and are described in Table 2.17-4. Noise measurement results indicate that traffic noise levels at various locations along I-10 surrounding the Project limits either approach or exceed the aforementioned NAC for frequent outdoor use areas during the peak noise hour. Noise modeling results indicate many residential land use locations are projected to experience a 0- to 2-dBA increase under Design Year (2045) Alternative 1 (No-Build Alternative) conditions. However, operation of Alternative 2 (Build Alternative) improvements to I-10 would not occur under Alternative 1 (No-Build Alternative); therefore, abatement associated with Alternative 2 (Build Alternative) would not be implemented.

Alternative 2 (Build Alternative)

Per 23 CFR 772, traffic noise impacts are identified by comparing existing and design year Alternative 1 (No-Build Alternative) conditions with predicted design year Alternative 2 (Build Alternative) conditions. Table 2.17-4 summarizes the traffic noise modeling results for existing conditions (2017), Design Year Alternative 1 (No-Build Alternative) (2045), and Design Year Alternative 2 (Build Alternative) (2045) conditions. Predicted future traffic noise levels with the Project are compared with existing conditions and future no-build conditions. Modeled existing noise levels along the Project site vary from 44 dBA to 77 dBA, and the modeled future build noise levels range from 46 dBA to 78 dBA at Activity Category B, C, E, F, and G land uses. Additionally, predicted traffic noise levels for the future build conditions would approach or exceed the applicable NAC at 31 modeled receptors. The largest noise increase between the modeled existing noise levels and the future build levels is 3 dBA at multiple receptors along the project alignment. No receptors

under Alternative 2 (Build Alternative) would experience a “substantial increase” in noise of 12 dBA or more over their corresponding modeled existing noise level.

Receptors where traffic noise levels are predicted to approach or exceed the NAC during the future build (2045) condition are discussed in more detail below.

The area west of 16th Street along the EB I-10 (south of Outer Highway 10 South) includes a number of residential receivers. The receptors evaluated in this area were 1 through 5, and ST-1, which represent 11 receivers. Design Year with Project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by approximately 1 to 2 dBA in this area. Three modeled receptors (ST-1, 1, and 3), representing a total of seven residences, would approach or exceed the NAC for Activity Category B land uses. As traffic noise impacts are predicted at noise-sensitive land uses, noise abatement must be considered and is discussed in Section 2.17.4.

In the areas along the EB I-10 off-ramp and on-ramp at County Line Road, a total of eight noise-sensitive receptors were evaluated. The receptors evaluated in this area were 12 through 17, ST-5, and ST-6, which represent eight receivers. Design Year with Project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by 1 to 2 dBA in this area. Four modeled receptors (ST-5, ST-6, 12, and 17) would approach or exceed the NAC for Activity Category B land uses. As traffic noise impacts are predicted at noise-sensitive land uses in this area, noise abatement must be considered and is discussed in Section 2.17.4.

Detailed noise modeling was conducted for the noise-sensitive area along WB I-10 near 17th Street. The receptors evaluated in this area were 53 through 58 and ST-16, which represents seven receivers. Design Year with Project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by 1 to 2 dBA in this area. Two modeled receptors (57 and 58) would approach or exceed the NAC for Activity Category B, and one modeled receptor (ST-16) would approach or exceed the NAC for Activity Category C land uses. As traffic noise impacts are predicted at noise-sensitive land uses, noise abatement must be considered and is discussed in Section 2.17.4.

Detailed noise modeling also included receptor ST-15 which represents the residence located at the northeast corner of 16th Street and Dunlap Boulevard. Design Year with Project noise levels are predicted to not increase relative to existing worst-hour traffic noise levels at this location. One modeled receptor (ST-15) would approach or exceed the NAC for Activity Category B land uses. As traffic noise impacts are predicted at this noise-sensitive land use, noise abatement must be considered and is discussed in Section 2.17.4.

The next cluster of noise-sensitive land uses is located along the north side of WB I-10, to the north/west of Live Oak Canyon Road. The receptors evaluated in this area were 44 through 50 and ST-13, which represents eight receivers. Design Year with Project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by 1 to 2 dBA in this area. Four modeled receptors (ST-13, 48, 49, and 50) would approach or exceed the NAC for Activity Category B land uses. As traffic noise impacts are predicted at these noise-sensitive land uses, noise abatement must be considered and is discussed in Section 2.17.4.

Detailed noise modeling was conducted for the Hillcrest Mobile Estates located along the WB I-10 and north of Calimesa Boulevard. The receptors evaluated in this area were 27 through 39, 60, ST-10, and ST-11/LT-1, which represents 40 receivers. Design Year with Project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by 1 to 3 dBA in this area. Ten modeled receptors (ST-10, ST-11/LT-1, 27, 28, 29, 30, 31, 32, 38, 39, and 60), representing a total of 24 receivers, would approach or exceed the NAC for Activity Category B land uses. As traffic noise impacts are predicted at noise-sensitive land uses in this area, noise abatement must be considered and is discussed in Section 2.17.4.

Detailed noise modeling also shows that there would be noise impacts at receptor ST-9, located near the intersection of Calimesa Boulevard and Avenue I. This receptor represents one noise-sensitive receiver. The design Year with Project noise level is predicted to increase relative to existing worst-hour traffic noise level by 2 dBA at this location. The modeled receiver would approach or exceed the NAC for Activity Category B land uses. As traffic noise impacts are predicted at this noise-sensitive land use, noise abatement must be considered and is discussed in Section 2.17.4.

Detailed noise modeling analysis also included the noise-sensitive area located east of the WB I-10 off-ramp to County Line Road. The receptors evaluated in this area were 18 through 21, and ST-7, which represents 5 receivers. Design Year with Project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by 0 to 1 dBA in this area. Four modeled receptors (ST-7, 18, 19, and 20) would approach or exceed the NAC for Land Use Category B land uses. As traffic noise impacts are predicted at noise-sensitive land uses, noise abatement must be considered and is discussed in Section 2.17.4.

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Table 2.17-6. Summary of Feasible Nose Abatement – Alternative 2 (Build Alternative)

Modeled Receptor No.	Barrier ID	Station	No. of Receptors	Existing Noise Level, Leq(h), dBA	Design Year Noise Level without Project, Leq(h), dBA	Design Year Noise with Project, Leq(h), dBA	Activity Category (NAC)	Impact Type	6-foot wall		8-foot wall		10-foot wall		12-foot wall		14-foot wall		16-foot wall		Feasible/ Design Goal Met
									Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	
ST-1	EB 1	102+06 to 107+75 Right	4	70	71	71	**B (67)**	**A/E**	—	—	**66**	**5**	**65**	**6**	**65**	**6**	**64**	**7**	**64**	**7**	**Yes**
1			2	64	66	66	B (67)	**A/E**	—	—	65	1	65	1	64	2	64	2	64	2	No
2			1	58	60	60	B (67)	—	—	—	60	0	60	0	60	0	60	0	60	0	No
3			1	65	66	66	B (67)	**A/E**	—	—	64	2	63	3	62	4	62	4	**61**	**5**	**Yes**
4			2	62	63	64	B (67)	—	—	—	61	3	60	4	**59**	**5**	**58**	**6**	**58**	**6**	**Yes**
5			1	62	64	64	B (67)	—	—	—	63	1	62	2	62	2	62	2	62	2	No
ST-1	EB 1 Short	102+06 to 107+21 Right	4	70	71	71	**B (67)**	**A/E**	—	—	**66**	**5**	**66**	**5**	**65**	**6**	**65**	**6**	**65**	**6**	**Yes**
1			2	64	66	66	B (67)	**A/E**	—	—	65	1	65	1	64	2	64	2	64	2	No
2			1	58	60	60	B (67)	—	—	—	60	0	60	0	60	0	60	0	60	0	No
3			1	65	66	66	B (67)	**A/E**	—	—	64	2	63	3	62	4	62	4	**61**	**5**	**Yes**
4			2	62	63	64	B (67)	—	—	—	61	3	60	4	**59**	**5**	**58**	**6**	**58**	**6**	**Yes**
5			1	62	64	64	B (67)	—	—	—	63	1	63	1	63	1	63	1	62	2	No
ST-5	EB 2a	253+14 to 256+78 Right	1	67	69	69	B (67)	**A/E**	—	—	66	3	65	4	**63**	**6**	**61**	**8**	**60**	**9**	**Yes**
12			1	66	67	67	B (67)	**A/E**	—	—	67	0	67	0	66	1	66	1	66	1	No
13			1	62	63	63	B (67)	—	—	—	63	0	63	0	63	0	63	0	62	1	No
ST-5	EB 2b	264+31 to 266+82 Right	1	67	69	69	B (67)	**A/E**	—	—	66	3	**64**	**5**	**63**	**6**	—	—	—	—	**Yes**
12			1	66	67	67	B (67)	**A/E**	—	—	67	0	66	1	66	1	—	—	—	—	No

Table 2.17-6. Summary of Feasible Nose Abatement – Alternative 2 (Build Alternative)

Modeled Receptor No.	Barrier ID	Station	No. of Receptors	Existing Noise Level, Leq(h), dBA	Design Year Noise Level without Project, Leq(h), dBA	Design Year Noise with Project, Leq(h), dBA	Activity Category (NAC)	Impact Type	6-foot wall		8-foot wall		10-foot wall		12-foot wall		14-foot wall		16-foot wall		Feasible/ Design Goal Met
									Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	
ST-6	EB 3a	261+58 to 267+92 Right	1	67	69	69	B (67)	**A/E**	—	—	67	2	67	2	66	3	**64**	**5**	**63**	**6**	**Yes**
15			1	61	62	62	B (67)	—	—	—	62	0	62	0	61	1	61	1	61	1	No
16			1	63	64	64	B (67)	—	—	—	64	0	64	0	63	1	63	1	62	2	No
17			1	65	66	67	B (67)	**A/E**	—	—	66	1	66	1	65	2	64	3	63	4	No
ST-6	EB 3b	264+31 to 266+82 Right	1	67	69	69	B (67)	**A/E**	—	—	**64**	**5**	**62**	**7**	**61**	**8**	—	—	—	—	**Yes**
15			1	61	62	62	B (67)	—	—	—	62	0	62	0	61	1	—	—	—	—	No
16			1	63	64	64	B (67)	—	—	—	64	0	66	1	65	2	—	—	—	—	No
17			1	65	66	67	B (67)	**A/E**	—	—	66	1	66	1	65	2	—	—	—	—	No
ST-16	WB 1	97+03 to 102+53 Left	1	70	71	71	C (67)	**A/E**	—	—	70	1	67	4	**66**	**5**	**66**	**5**	**65**	**6**	**Yes**
56			1	62	63	63	C (67)	—	—	—	62	1	61	2	60	3	59	4	59	4	No
57			1	68	69	69	B (67)	**A/E**	—	—	**67**	**2**	**67**	**2**	**64**	**5**	**64**	**5**	**63**	**6**	**Yes**
58			1	70	72	72	B (67)	**A/E**	—	—	69	3	**67**	**5**	**66**	**6**	**65**	**7**	**64**	**8**	**Yes**
ST-15	WB 2	112+97 to 113+90 Left	1	64	67	67	B (67)	**A/E**	—	—	65	2	65	2	65	2	—	—	—	—	No
ST-13	WB 3a	130+21 to 134+72 Left	1	74	75	75	B (67)	**A/E**	—	—	**70**	**5**	**69**	**6**	**68**	**7**	**67**	**8**	**66**	**9**	**Yes**
47			1	64	65	65	B (67)	—	—	—	64	1	64	1	64	1	63	2	63	2	No
48			1	77	78	78	B (67)	**A/E**	—	—	76	2	74	4	**73**	**5**	**72**	**6**	**72**	**6**	**Yes**

Table 2.17-6. Summary of Feasible Nose Abatement – Alternative 2 (Build Alternative)

Modeled Receptor No.	Barrier ID	Station	No. of Receptors	Existing Noise Level, Leq(h), dBA	Design Year Noise Level without Project, Leq(h), dBA	Design Year Noise with Project, Leq(h), dBA	Activity Category (NAC)	Impact Type	6-foot wall		8-foot wall		10-foot wall		12-foot wall		14-foot wall		16-foot wall		Feasible/ Design Goal Met
									Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	
49			1	70	71	71	B (67)	**A/E**	—	—	68	3	67	4	67	4	**65**	**6**	**65**	**6**	**Yes**
50			1	67	69	68	B (67)	**A/E**	—	—	66	2	66	2	65	3	64	4	**63**	**5**	**Yes**
ST-13	SB 3b	132+09 to 134+72 Left	1	74	75	75	B (67)	**A/E**	—	—	**68**	**7**	**66**	**9**	**65**	**10**	—	—	—	—	**Yes**
47			1	64	65	65	B (67)	—	—	—	64	1	64	1	64	1	—	—	—	—	No
48			1	77	78	78	B (67)	**A/E**	—	—	76	2	74	4	**73**	**5**	—	—	—	—	**Yes**
49			1	70	71	71	B (67)	**A/E**	—	—	67	4	**66**	**5**	**65**	**6**	—	—	—	—	**Yes**
50			1	67	69	68	B (67)	**A/E**	—	—	67	1	**67**	**1**	**67**	**1**	—	—	—	—	No
ST-10	WB 4a	212+40 to 277+38 Left	2	69	72	72	B (67)	**A/E**	—	—	71	1	71	1	71	1	71	1	71	1	No
ST-11/ LT-1			1	75	76	76	B (67)	**A/E**	—	—	72	4	72	4	**71**	**5**	**71**	**5**	**71**	**5**	**Yes**
27			2	70	73	73	B (67)	**A/E**	—	—	72	1	72	1	72	1	72	1	72	1	No
28			2	70	73	73	B (67)	**A/E**	—	—	72	1	72	1	71	2	71	2	71	2	No
29			4	72	74	73	B (67)	**A/E**	—	—	70	3	69	4	**68**	**5**	**68**	**5**	**68**	**5**	**Yes**
30			4	71	72	72	B (67)	**A/E**	—	—	70	2	69	3	68	4	68	4	**67**	**5**	**Yes**
31			4	66	68	67	B (67)	**A/E**	—	—	65	2	64	3	64	3	64	3	63	4	No
32			2	75	77	77	B (67)	**A/E**	—	—	73	4	**72**	**5**	**71**	**6**	**71**	**6**	**71**	**6**	**Yes**
33			1	44	46	46	B (67)	—	—	—	46	0	46	0	46	0	46	0	46	0	No

Table 2.17-6. Summary of Feasible Nose Abatement – Alternative 2 (Build Alternative)

Modeled Receptor No.	Barrier ID	Station	No. of Receptors	Existing Noise Level, Leq(h), dBA	Design Year Noise Level without Project, Leq(h), dBA	Design Year Noise with Project, Leq(h), dBA	Activity Category (NAC)	Impact Type	6-foot wall		8-foot wall		10-foot wall		12-foot wall		14-foot wall		16-foot wall		Feasible/ Design Goal Met
									Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	
34			3	60	62	61	B (67)	—	—	—	61	0	60	1	59	2	59	2	59	2	No
35			4	57	58	58	B (67)	—	—	—	57	1	57	1	56	2	56	2	56	2	No
36			3	57	58	58	B (67)	—	—	—	57	1	57	1	56	2	55	3	55	3	No
37			2	59	60	60	B (67)	—	—	—	59	1	59	1	57	3	56	4	**55**	**5**	**Yes**
38			3	61	62	62	B (67)	—	—	—	61	1	60	2	59	3	58	4	58	4	No
39			2	67	69	69	B (67)	**A/E**	—	—	66	3	65	4	**63**	**6**	**62**	**7**	**62**	**7**	**Yes**
60			1	73	74	74	B (67)	**A/E**	—	—	70	4	70	4	**68**	**6**	**67**	**7**	**67**	**7**	**Yes**
ST-10	WB 4b	212+87 to 227+11 Left	2	69	72	72	B (67)	**A/E**	**65**	**7**	**62**	**10**	**59**	**13**	**58**	**14**	—	—	—	—	**Yes**
ST-11/ LT-1			1	75	76	76	B (67)	**A/E**	**69**	**7**	**66**	**10**	**64**	**12**	**63**	**13**	—	—	—	—	**Yes**
27			2	70	73	73	B (67)	**A/E**	72	1	**65**	**8**	**62**	**11**	**61**	**12**	—	—	—	—	**Yes**
28			2	70	73	73	B (67)	**A/E**	**67**	**6**	**65**	**8**	**65**	**8**	**64**	**9**	—	—	—	—	**Yes**
29			4	72	74	73	B (67)	**A/E**	**67**	**6**	**64**	**9**	**62**	**11**	**61**	**12**	—	—	—	—	**Yes**
30			4	71	72	72	B (67)	**A/E**	**67**	**5**	**64**	**8**	**63**	**9**	**61**	**11**	—	—	—	—	**Yes**
31			4	66	68	67	B (67)	**A/E**	65	2	64	4	**63**	**5**	**61**	**7**	—	—	—	—	**Yes**
32			2	75	77	77	B (67)	**A/E**	**69**	**8**	**65**	**11**	**63**	**13**	**62**	**14**	—	—	—	—	**Yes**
33			1	44	46	46	B (67)	—	46	0	46	0	46	0	46	0	—	—	—	—	No

Table 2.17-6. Summary of Feasible Nose Abatement – Alternative 2 (Build Alternative)

Modeled Receptor No.	Barrier ID	Station	No. of Receptors	Existing Noise Level, Leq(h), dBA	Design Year Noise Level without Project, Leq(h), dBA	Design Year Noise with Project, Leq(h), dBA	Activity Category (NAC)	Impact Type	6-foot wall		8-foot wall		10-foot wall		12-foot wall		14-foot wall		16-foot wall		Feasible/ Design Goal Met
									Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	
34			3	60	62	61	B (67)	—	61	0	61	0	61	0	61	0	—	—	—	—	No
35			4	57	58	58	B (67)	—	58	0	57	1	57	1	57	1	—	—	—	—	No
36			3	57	58	58	B (67)	—	58	0	58	0	58	0	57	1	—	—	—	—	No
37			2	59	60	60	B (67)	—	60	0	59	1	58	2	58	2	—	—	—	—	No
38			3	61	62	62	B (67)	—	62	0	61	1	61	1	60	2	—	—	—	—	No
39			2	67	69	69	B (67)	**A/E**	67	2	66	2	64	4	**63**	**5**	—	—	—	—	**Yes**
60			1	73	74	74	B (67)	**A/E**	71	3	**68**	**6**	**66**	**8**	**65**	**9**	—	—	—	—	**Yes**
ST-10	WB 4c	212+40 to 226+28 Left	2	69	72	72	B (67)	**A/E**	—	—	72	0	72	0	72	0	71	1	71	1	No
ST-11/ LT-1			1	75	76	76	B (67)	**A/E**	—	—	73	3	72	4	**71**	**5**	**71**	**5**	**71**	**5**	**Yes**
27			2	70	73	73	B (67)	**A/E**	—	—	72	1	72	1	72	1	72	1	72	1	No
28			2	70	73	73	B (67)	**A/E**	—	—	72	1	71	2	71	2	71	2	71	2	No
29			4	72	74	73	B (67)	**A/E**	—	—	70	3	69	4	68	5	**68**	**5**	**68**	**5**	**Yes**
30			4	71	72	72	B (67)	**A/E**	—	—	70	2	69	3	68	4	68	4	**67**	**5**	**Yes**
31			4	66	68	67	B (67)	**A/E**	—	—	65	2	65	2	64	3	64	3	63	4	No
32			2	75	77	77	B (67)	**A/E**	—	—	73	4	72	5	**71**	**6**	**71**	**6**	**71**	**6**	**Yes**
33			1	44	46	46	B (67)	—	—	—	46	0	46	0	46	0	46	0	46	0	No

Table 2.17-6. Summary of Feasible Nose Abatement – Alternative 2 (Build Alternative)

Modeled Receptor No.	Barrier ID	Station	No. of Receptors	Existing Noise Level, Leq(h), dBA	Design Year Noise Level without Project, Leq(h), dBA	Design Year Noise with Project, Leq(h), dBA	Activity Category (NAC)	Impact Type	6-foot wall		8-foot wall		10-foot wall		12-foot wall		14-foot wall		16-foot wall		Feasible/ Design Goal Met
									Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	Leq(h)	Insertion Loss	
34			3	60	62	61	B (67)	—	—	—	61	0	60	1	59	2	59	2	58	3	No
35			4	57	58	58	B (67)	—	—	—	58	0	57	1	57	1	57	1	57	1	No
36			3	57	58	58	B (67)	—	—	—	58	0	57	1	57	1	56	2	56	2	No
37			2	59	60	60	B (67)	—	—	—	59	1	59	1	57	3	56	4	56	4	No
38			3	61	62	62	B (67)	—	—	—	61	1	61	1	60	2	59	3	58	4	No
39			2	67	69	69	B (67)	**A/E**	—	—	66	3	65	4	**63**	**6**	**62**	**7**	**62**	**7**	**Yes**
60			1	73	74	74	B (67)	**A/E**	—	—	70	4	70	4	**68**	**6**	**67**	**7**	**67**	**7**	**Yes**
ST-9	WB 5	241+97 to 244+34 Left	1	67	70	69	B (67)	**A/E**	—	—	67	2	66	3	**66**	3	—	—	—	—	No
ST-7			1	69	71	70	B (67)	**A/E**	—	—	68	2	67	3	**65**	**5**	**65**	**5**	**64**	**6**	**Yes**
18			1	71	72	71	B (67)	**A/E**	—	—	68	3	67	4	**65**	**6**	**64**	**7**	**6**	**7**	**Yes**
19	WB 6	264+17 to 268+89 Left	1	73	74	74	B (67)	**A/E**	—	—	**69**	**5**	**66**	**8**	**65**	**9**	**64**	**10**	**63**	**11**	**Yes**
20			1	65	66	66	B (67)	—	—	—	65	1	64	2	64	2	63	3	62	4	No
21			1	61	62	61	B (67)	—	—	—	61	0	59	2	59	2	58	3	57	4	No

Source: Caltrans 2020a

Notes:

Bold text indicates that the feasible design goal has been met.

A/E=approach or exceed; dBA=A-weighted decibel; EB=eastbound; ID=identification; L_{eq}(h)=1-hour equivalent continuous sound level; NAC=noise abatement criteria; No.=number; TNM=Traffic Noise Model; WB=westbound

2.17.4 Avoidance, Minimization, and/or Mitigation Measures

TNM 2.5 was used to model noise barriers and determine the level of noise reduction (insertion loss) provided for modeled locations that were found to approach or exceed the applicable NAC. Based on the studies completed to date, Caltrans considered the following noise abatement barriers.

Barrier Eastbound 1

During the Design Year, three modeled receptors (ST-1, 1, and 3) would approach or exceed the NAC for Category B land uses. Therefore, a noise barrier (identified as Barrier EB 1 on Figure 2.17-2) was evaluated. Barrier EB 1 was evaluated in 2-foot increments from 8 through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-7 by barrier height. The analysis of Barrier EB 1 found that a barrier height of 14 to 16 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-7. Barrier EB 1 – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	5	6	6	7	7
Number of benefited receptors	4	4	6	6	7
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	$107,000	$107,000
Total reasonable allowance	$428,000	$428,000	$642,000	$642,000	$749,000
Barrier construction cost	—	—	—	$2,297,059	$2,351,902
Barrier reasonable?	No	No	No	No	No

Source: Caltrans 2020b

Notes:
dBA=A-weighted decibel; EB=eastbound

Barrier EB 1 would have four benefited receptors at barrier heights of 8 and 10 feet, six benefited receptors at barrier heights of 12 and 14 feet, and seven benefited receptors at a barrier height of 16

feet, with total reasonable allowances of $428,000, $642,000, and $749,000, respectively. The construction costs for each barrier height would be $2,297,059 at 14 feet and $2,351,902 at 16 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier EB 1 was found not to be reasonable from a cost perspective.

Shortened Barrier Eastbound 1

The construction cost for Barrier EB 1 includes the removal of a wooden pole that is in conflict with the east portion of the proposed barrier, and the replacement of the wooden pole with steel poles to provide stability to the existing overhead electrical line systems located along curved roadways north and south of I-10 (Dunlap Blvd and Outer 10 Highway South respectively). To avoid the costs associated with the removal of the wooden pole, an alternative analysis for Barrier EB 1 considered reducing the length of the barrier on the east side by 52 feet to avoid the wooden pole and the need for modifications to the overhead electrical systems. The shortened barrier evaluated, or Shortened Barrier EB 1 was evaluated in 2-foot increments from 8 through 16 feet in height. As shown in Table 2.17-6, Shortened Barrier EB 1 would not achieve a 7-dBA reduction at any receivers.

As required by the Protocol, a 5-dBA noise reduction is necessary to qualify as acoustically feasible, and a barrier must achieve the 7-dBA noise reduction design goal at one or more benefited receptors. Therefore, Shortened Barrier EB 1 would be acoustically feasible but would not achieve the 7-dBA noise reduction design goal.

Barrier Eastbound 2a

During the Design Year, two modeled receptors (ST-5 and 12) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier (identified as Barrier EB 2a on Figure 2.17-2) was evaluated. Barrier EB 2a was evaluated in 2-foot increments from 8 through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-8 by barrier height. The analysis of Barrier EB 2a found that a barrier height of 14 to 16 feet would be feasible and meet the 7-dBA insertion loss design goal.

Barrier EB 2a would have one benefited receptor at barrier heights of 12 to 16 feet with a total reasonable allowance of $107,000. The construction costs for each barrier height would be $318,271 at 14 feet and $358,021 at 16 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier EB 2a was found not to be reasonable from a cost perspective.

Table 2.17-8. Barrier EB 2a – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	3	4	6	8	9
Number of benefited receptors	0	0	1	1	1
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	$107,000	$107,000
Total reasonable allowance	$0	$107,000	$107,000	$107,000	$107,000
Barrier construction cost	—	—	—	$318,271	$358,021
Barrier reasonable?	No	No	No	No	No

Source: Caltrans 2020b

Notes:

dBA=A-weighted decibel; EB=eastbound

Barrier EB 2a would have one benefited receptor at barrier heights of 12 to 16 feet with a total reasonable allowance of $107,000. The construction costs for each barrier height would be $318,271 at 14 feet and $358,021 at 16 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier EB 2a was found not to be reasonable from a cost perspective.

Barrier Eastbound 2b

During the Design Year, two modeled receptors (ST-5 and 12) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier (identified as Barrier EB 2b on Figure 2.17-2) was evaluated. Barrier EB 2b was evaluated in 2-foot increments from 8 through 12 feet in height. As shown in Table 2.17-6, Barrier EB 2b would not achieve a 7-dBA reduction at any receivers.

As required by the Protocol, a 5-dBA noise reduction is necessary to qualify as acoustically feasible, and a barrier must achieve the 7-dBA noise reduction design goal at one or more benefited

receptors. Therefore, Barrier EB 2b would be acoustically feasible but would not achieve the 7-dBA noise reduction design goal.

Barrier Eastbound 3a

During the Design Year, two modeled receptors (ST-5 and 12) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier (identified as Barrier EB 3a on Figure 2.17-2) was evaluated. Barrier EB 3a was evaluated in 2-foot increments from 8 through 16 feet in height. As shown in Table 2.17-6, Barrier EB 3a would not achieve a 7-dBA reduction at any receivers.

As required by the Protocol, a 5-dBA noise reduction is necessary to qualify as acoustically feasible, and a barrier must achieve the 7-dBA noise reduction design goal at one or more benefited receptors. Therefore, Barrier EB 3a would be acoustically feasible but would not achieve the 7-dBA noise reduction design goal.

Barrier Eastbound 3b

During the Design Year, two modeled receptors (ST-6 and 17) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier (identified as Barrier EB 3b on Figure 2.17-2) was evaluated. Barrier EB 3b was evaluated in 2-foot increments from 8 through 12 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-9 by barrier height. The analysis of Barrier EB 3b found that a barrier height of 10 and 12 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-9. Barrier EB 3b – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	5	7	8	—	—
Number of benefited receptors	1	1	1	—	—
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	—	—
Total reasonable allowance	$107,000	$107,000	$107,000	—	—

Table 2.17-9. Barrier EB 3b – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier construction cost – Option 1 (Trench Footing)	—	$322,566	$367,225	—	—
Barrier construction cost – Option 2 (Pile Cap)	—	$268,580	$303,071	—	—
Barrier reasonable?	No	No	No	—	—

Source: Caltrans 2020b

Notes:

dBA=A-weighted decibel; EB=eastbound

Barrier EB 3b would have one benefited receptor at barrier heights of 8 to 12 feet with a total reasonable allowance of $107,000. Two construction methods, trench footing and pile cap, were evaluated for this barrier. The construction costs, associated with the lower cost pile cap construction option, for each barrier height would be $268,580 at 10 feet and $303,071 at 12 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier EB 3b was found not to be reasonable from a cost perspective.

Barrier Westbound 1

During the Design Year, two modeled receptors would approach or exceed the NAC for Land Use Category B (57 and 58), and one modeled receptor would approach or exceed the NAC for Land Use Category C (ST-16) land uses. Therefore, a noise barrier system (identified as Barrier WB 1 on Figure 2.17-2) was evaluated. Barrier WB 1 was evaluated in 2-foot increments from 8 through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-10 by barrier height. The analysis of Barrier WB 1 found that barrier height of 14 to 16 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-10. Barrier WB 1 – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	3	5	6	7	8
Number of benefited receptors	0	1	3	3	3
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	$107,000	$107,000
Total reasonable allowance	$0	$107,000	$321,000	$321,000	$321,000
Barrier construction cost	—	—	—	$706,361	$762,401
Barrier reasonable?	No	No	No	No	No

Source: Caltrans 2020b

Notes:

dBA=A-weighted decibel; WB=westbound

Barrier WB 1 would have one benefited receptor at a barrier height of 10 feet and three benefited receptors at barrier heights of 12 to 16 feet, with total reasonable allowances of $107,000 and $321,000, respectively. The construction costs for each barrier height would be $706,361 at 14 feet and $762,401 at 16 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier WB 1 was found not to be reasonable from a cost perspective.

Barrier Westbound 2

During the Design Year, one modeled receptor (ST-15) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier system (identified as Barrier WB 2 on Figure 2.17-2) was evaluated. Barrier WB 2 was evaluated in 2-foot increments from 8 through 12 feet in height. As shown in Table 2.17-6, Barrier WB 2 would not achieve a 5-dBA reduction at any receivers. As required by the Protocol, a 5-dBA noise reduction is necessary to qualify as acoustically feasible, and a barrier must achieve the 7-dBA noise reduction design goal at one or

more benefited receptors. Therefore, Barrier WB 2 was found not to be acoustically feasible and would not achieve the design goal.

Barrier Westbound 3a

During the Design Year, four modeled receptors (ST-13, 48, 49, and 50) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier system (identified as Barrier WB 3a on Figure 2.17-2) was evaluated. Barrier WB 3a was evaluated in 2-foot increments from 8 through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-11 by barrier height. The analysis of Barrier WB 3a found that barrier heights of 12 to 16 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-11. Barrier WB 3a – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier Noise Reduction (dBA)	5	6	7	8	9
Number of Benefited Receptors	1	1	2	3	4
Reasonable Allowance per Benefited Receptor	$107,000	$107,000	$107,000	$107,000	$107,000
Total Reasonable Allowance	$107,000	$107,000	$214,000	$321,000	$428,000
Barrier Construction Cost	—	—	$370,849	$410,926	$458,838
Barrier Reasonable?	No	No	No	No	No

Source: Caltrans 2020b

Notes:

dBA=A-weighted decibel; WB=westbound

Barrier WB 3a would have one benefited receptor at barrier heights of 8 and 10 feet, two benefited receptors at a barrier height of 12 feet, three benefited receptors at a barrier height of 14 feet, and four benefited receptors at a barrier height of 16 feet, with total reasonable allowances of $107,000, $214,000, $321,000, and $428,000, respectively. The construction costs for each barrier height would be $370,849 at 12 feet, $410,926 at 14 feet, and $458,838 at 16 feet. The reasonable

allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier WB 3a was found not to be reasonable from a cost perspective.

Barrier Westbound 3b

During the Design Year, four modeled receptors (ST-13, 48, 49, and 50) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier system (identified as Barrier WB 3b on Figure 2.17-2) was evaluated. Barrier WB 3b was evaluated in 2-foot increments from 8 through 12 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-12 by barrier height. The analysis of Barrier WB 3b found that barrier heights of 8 to 12 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-12. Barrier WB 3b – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	7	9	10	—	—
Number of benefited receptors	1	2	3	—	—
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	—	—
Total reasonable allowance	$107,000	$214,000	$321,000	—	—
Barrier construction cost	$387,686	$419,489	$455,222	—	—
Barrier reasonable?	No	No	No	—	—

Source: Caltrans 2020b

Notes:

dBA=A-weighted decibel; WB=westbound

Barrier WB 3b would have one benefitted receptor at a barrier height of 8 feet, two benefited receptors at a barrier height of 10 feet, and three benefited receptors at a barrier height of 12 feet, with total reasonable allowances of $107,000, $214,000, and $321,000, respectively. The construction costs for each barrier height would be $387,686 at 8 feet, $419,489 at 10 feet, and $455,222 at 12 feet. The reasonable allowance for each barrier height is exceeded by the

associated construction cost. Therefore, Barrier WB 3b was found not to be reasonable from a cost perspective.

Barrier Westbound 4a

During the Design Year, ten modeled receptors (ST-10, ST-11/LT-1, 27, 28, 29, 30, 31, 32, 39, and 60) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier system (identified as Barrier WB 4a on Figure 2.17-2) was evaluated. Barrier WB 4a was evaluated in 2-foot increments from 8 through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-13 by barrier height. The analysis of Barrier WB 4a found that a barrier height 14 to 16 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-13. Barrier WB 4a – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	4	4	6	7	7
Number of benefited receptors	0	2	10	10	16
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	$107,000	$107,000
Total reasonable allowance	$0	$214,000	$1,070,000	$1,070,000	$1,712,000
Barrier construction cost	—	—	—	$1,922,955	$2,038,813
Barrier reasonable?	No	No	No	No	No

Source: Caltrans 2020b

Notes:

dBA=A-weighted decibel; WB=westbound

Barrier WB 4a would have 2 benefited receptors at barrier height of 10 feet, 10 benefited receptors at barrier heights of 12 and 14 feet, and 16 benefited receptors at a barrier height of 16 feet, with total reasonable allowances of $214,000, $1,070,000, and $1,712,000, respectively. The construction costs for each barrier height would be $1,922,955 at 14 feet and $2,038,813 at 16 feet.

The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier WB 4a was found not to be reasonable from a cost perspective.

Barrier Westbound 4b

During the Design Year, ten modeled receptors (ST-10, ST-11/LT-1, 27, 28, 29, 30, 31, 32, 39, and 60) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier system (identified as Barrier WB 4b on Figure 2.17-2) was evaluated. Barrier WB 4b was evaluated in 2-foot increments from 6 through 12 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-14 by barrier height. The analysis of Barrier WB 4b found that a barrier height 6 to 12 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-14. Barrier WB 4b – Reasonableness Determination

	6-foot-high Barrier	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier
Barrier noise reduction (dBA)	8	11	13	14	—
Number of benefited receptors	15	18	22	24	—
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	$107,000	—
Total reasonable allowance	$1,605,000	$1,926,000	$2,354,000	$2,568,000	—
Barrier construction cost – Option 1 (Underground Lines)	$5,617,239	$5,769,626	$5,946,312	$6,110,849	—
Barrier construction cost – Option 2 (Shoofly Lines)	$2,567,959	$2,720,346	$2,897,032	$3,061,569	—
Barrier construction cost – Option 3 (Relocate Lines)	$4,950,459	$5,102,846	$5,279,532	$5,444,069	—
Barrier reasonable?	No	No	No	No	—

Source: Caltrans 2020b

Table 2.17-14. Barrier WB 4b – Reasonableness Determination

	6-foot-high Barrier	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier

Notes:

dBA=A-weighted decibel; WB=westbound

Barrier WB 4b would have 15 benefited receptors at a barrier height of 6 feet, 18 benefited receptors at a barrier height of 8 feet, 22 benefited receptors at a barrier height of 10 feet, and 24 benefited receptors at a barrier height of 12 feet, with total reasonable allowances of $1,605,000, $1,926,000, $2,354,000 and $2,568,000, respectively. Three construction methods, underground power/telecom lines, temporary shoofly of power/telecom lines, and relocation of power/telecom lines, were evaluated for this barrier. The construction costs, associated with the lower cost temporary shoofly option, for each barrier height would be $2,567,959 at 6 feet, $2,720,346 at 8 feet, $2,897,032 at 10 feet, and $3,061,569 at 12 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier WB 4b was found not to be reasonable from a cost perspective.

Barrier Westbound 4c

During the Design Year, ten modeled receptors (ST-10, ST-11/LT-1, 27, 28, 29, 30, 31, 32, 39, and 60) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier system (identified as Barrier WB 4c on Figure 2.17-2) was evaluated. Barrier WB 4c was evaluated in 2-foot increments from 8 through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-15 by barrier height. The analysis of Barrier WB 4c found that a barrier height 14 and 16 feet would be feasible and meet the 7-dBA insertion loss design goal.

Table 2.17-15. Barrier WB 4c – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	4	5	6	7	7
Number of benefited receptors	0	2	10	10	14

Table 2.17-15. Barrier WB 4c – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	$107,000	$107,000
Total reasonable allowance	$0	$214,000	$1,070,000	$1,070,000	$1,498,000
Barrier construction cost	—	—	—	$2,171,680	$2,271,394
Barrier reasonable?	No	No	No	No	No

Source: Caltrans 2020b

Notes:

dBA=A-weighted decibel; WB=westbound

Barrier WB 4c would have 2 benefited receptors at barrier height of 10 feet, 10 benefited receptors at barrier heights of 12 and 14 feet, and 14 benefited receptors at a barrier height of 16 feet, with total reasonable allowances of $214,000, $1,070,000, and $1,498,000, respectively. The construction costs for each barrier height would be $2,171,680 at 14 feet and $2,271,394 at 16 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier WB 4c was found not to be reasonable from a cost perspective.

Barrier Westbound 5

During the Design Year, one modeled receptor (ST-9) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier (identified as Barrier WB 5 on Figure 2.17-2) was evaluated. Barrier WB 5 was evaluated in 2-foot increments from 8 through 12 feet in height. As shown in Table 2.17-6, Barrier WB 5 would not achieve a 5-dBA reduction at any receivers.

As required by the Protocol, a 5-dBA noise reduction is necessary to qualify as acoustically feasible, and a barrier must achieve the 7-dBA noise reduction design goal at one or more benefited receptors. Therefore, Barrier WB 5 was found not to be acoustically feasible and would not achieve the design goal.

Barrier Westbound 6

During the Design Year, four modeled receptors (ST-7, 18, 19, and 20) would approach or exceed the NAC for Land Use Category B land uses. Therefore, a noise barrier (identified as Barrier WB 6 on Figure 2.17-2) was evaluated. Barrier WB 6 was evaluated in 2-foot increments from 8 through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.17-16 by barrier height. The analysis of Barrier WB 6 found that barrier heights of 10 to 16 feet would be feasible and meet the 7-dBA insertion loss design goal.

Barrier WB 6 would have one benefited receptor at barrier heights of 8 and 10 feet and three benefited receptors at barrier heights of 12 to 16 feet, with total reasonable allowances of $107,000 and $321,000, respectively.

Table 2.17-16. Barrier WB 6 – Reasonableness Determination

	8-foot-high Barrier	10-foot-high Barrier	12-foot-high Barrier	14-foot-high Barrier	16-foot-high Barrier
Barrier noise reduction (dBA)	5	8	9	10	11
Number of benefited receptors	1	1	3	3	3
Reasonable allowance per benefited receptor	$107,000	$107,000	$107,000	$107,000	$107,000
Total reasonable allowance	$107,000	$107,000	$321,000	$321,000	$321,000
Barrier construction cost	—	$337,308	$379,425	$421,541	$471,891
Barrier reasonable?	No	No	No	No	No

Source: Caltrans 2020b

Notes:
dBA=A-weighted decibel; WB=westbound

The construction costs for each barrier height would be $337,308 at 10 feet, $379,425 at 12 feet, $421,541 at 14 feet, and $471,891 at 16 feet. The reasonable allowance for each barrier height is exceeded by the associated construction cost. Therefore, Barrier WB 6 was found not to be reasonable from a cost perspective.

Barrier Recommendation

Nine barriers that would provide a line-of-sight break between a receptor and an 11.5-foot-high truck stack, are acoustically feasible and achieve the 7dBA noise reduction design goal. However, the preliminary cost estimates show that none of the proposed barriers meet the cost effectiveness criteria; and therefore, are determined not reasonable. Therefore, none of the barriers evaluated as part of the Project are proposed to be constructed.

2.17.4.1 Minimization Measures

The following measures will be included to minimize noise and vibration impacts.

N-1 During construction, SBCTA will implement the following procedures to minimize temporary impacts from construction vibration:

- Hours of vibration-intensive activities, such as vibratory rollers, will be restricted to minimize adverse impacts on the residents.
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible will be entitled to a preconstruction building inspection to document the preconstruction condition of that structure.
- Vibration monitoring will be conducted during vibration-intensive activities.

N-2 During site excavation and grading, SBCTA will ensure all construction equipment, fixed or mobile, is equipped with sound-control devices. No equipment will have an unmuffled exhaust.

N-3 During Project construction, SBCTA will implement appropriate noise reduction measures to minimize temporary noise impacts, including turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources. To further minimize construction noise impacts on adjacent sensitive land uses, SBCTA will ensure that noise levels from contractor operations, between the hours of 9 p.m. and 6 a.m., will not exceed 86 dBA Lmax at a distance of 50 ft., in accordance with Caltrans Standard Specifications in Section 14-8.02, “Noise Control,” and Caltrans SSP 14-8.02.

2.18 Energy

2.18.1 Regulatory Setting

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.18.1.1 California's Renewable Portfolio Standard

Established in 2002 under Senate Bill 1078, California's Renewables Portfolio Standard (RPS) applies to all electricity retailers in the state, including publicly owned utilities (POU), investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities were required to adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. The California Public Utilities Commission (CPUC) and California Energy Commission (CEC) jointly implement the RPS.

2.18.1.2 Senate Bill 350

Signed on October 7, 2015, Senate Bill 350, also known as the Clean Energy and Pollution Reduction Act of 2015, includes objectives to increase the procurement of the state's electricity from renewable sources from 33 percent to 50 percent by December 31, 2030, and double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation by 2030. Senate Bill 350 establishes annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses by January 1, 2030.

2.18.2 Affected Environment

2.18.2.1 Transportation Energy

Transportation energy is generally described in terms of direct and indirect energy. Direct energy is the energy consumed in the actual propulsion (e.g., automobiles, trains, airplanes). This energy consumption is a function of traffic characteristics such as VMT, speed, vehicle mix, and thermal value of the fuel being used. Some projects may also include features such as new or replacement roadway lighting or other features requiring electricity, which is an ongoing and permanent source of direct energy consumption. The one-time energy expenditure involved in constructing a project is

also considered direct energy. Indirect energy is defined as all of the remaining energy consumed to run a transportation system, including construction energy, maintenance energy, and any substantial impacts on energy consumption related to project-induced land use changes and mode shifts, as well as any substantial changes in energy associated with vehicle operation, manufacturing, or maintenance due to increased automobile use.

Transportation Fuels

Petroleum and natural gas are the two main fuel sources for California's energy system. Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2015, 15.1 billion gallons of gasoline were sold (CEC n.d. a). Diesel fuel is the second largest transportation fuel used in California, representing 17 percent of total fuel sales behind gasoline. In 2015, 4.2 billion gallons of diesel, including off-road diesel, was sold (CEC n.d. b). This has resulted in the estimated emission of more than 169 million metric tons (MT) of GHG equivalence. According to the latest inventory of statewide GHG emissions values, in 2015, the transportation sector represented 39 percent of statewide GHG emissions (CARB 2018).

Traffic Analysis

Information for this section is taken from the TOAR prepared for the Project (Caltrans 2018a). The TOAR analyzed Project impacts on traffic operation under both Opening Year (2025) and Design Year (2045) conditions. The traffic study area includes the Project limits, which extends from EB I-10 between Yucaipa Boulevard and County Line Road (PM 36.4 to PM R39.2 from PM 0.0 to 0.2). Areas east and west of the Project were also included to ensure both downstream and upstream impacts of the Project were reflected in the TOAR.

The Project would improve freeway operations during the AM peak hour and PM peak hour under the Design Year (2045) scenario. When compared with Alternative 1 (No-Build Alternative), which would have 11 freeway mainline segments or ramp junctions operating at LOS E or F, Alternative 2 (Build Alternative) is anticipated to have no freeway mainline segments or ramp junctions operating at an unsatisfactory LOS.

Implementation of Alternative 2 (Build Alternative) is anticipated to improve network performance within the traffic study area. As shown in Table 2.18-1, under Alternative 2 (Build Alternative), car travel time through the I-10 corridor during the AM peak hour would be approximately 3 minutes at a speed of 63 miles per hour. During the PM peak hour, travel time for cars would be approximately 4 minutes with a speed of 56 miles per hour. Average delay per vehicle is anticipated to be 14.7 seconds during the AM peak hour and 37.1 seconds during the PM peak hour.

Table 2.18-1. Design Year (2045) Network Performance Measures – Comparison Summary

Performance Measure		Alternative 1 (No-Build Alternative)		Alternative 2 (Build Alternative)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Travel time – EB I-10: Yucaipa Boulevard to County Line Road	Cars	3:43 minutes	6:08 minutes	3:31 minutes	3:56 minutes
	Trucks	4:56 minutes	8:17 minutes	4:50 minutes	5:06 minutes
Speed – EB I-10: Yucaipa Boulevard to County Line Road	Cars	59.3 miles per hour	35.9 miles per hour	62.6 miles per hour	56.1 miles per hour
	Trucks	44.6 miles per hour	26.6 miles per hour	45.6 miles per hour	43.3 miles per hour
Volume served		5,957 vehicles	7,411 vehicles	5,842 vehicles	7,700 vehicles
Average delay per vehicle		20.7 seconds	141.6 seconds	14.7 seconds	37.1 seconds
Total delay (VHD)		34.3 hours	291.6 hours	23.9 hours	79.3 hours

Source: Caltrans 2018a

Notes:

EB=eastbound; I=Interstate; VHD=vehicle-hours of delay

By comparison, Alternative 1 (No-Build Alternative) would have a car travel time of close to 4 minutes at a speed of 60 miles per hour during AM peak hour and a truck travel time of close to 6 minutes at a speed of 36 miles per hour. Average delay per vehicle under Alternative 1 (No-Build Alternative) is anticipated to be 20.7 seconds during the AM peak hour and 141.6 seconds during the PM peak hour in the Design Year (2045) scenario.

Trucks would travel through the traffic study area in approximately 5 minutes during the AM peak hour and PM peak hour under Alternative 2 (Build Alternative). The travel speed of trucks during the AM peak hour is approximately 46 miles per hour and 43 miles per hour during the PM peak hour. Under Alternative 2 (Build Alternative), the average delay per vehicle is 14.7 seconds in the AM peak hour and 37.1 seconds during the PM peak hour. In comparison with Alternative 1 (No-Build Alternative), the average delay per vehicle is anticipated to be 20.7 seconds during the AM peak hour and 141.6 seconds during the PM peak hour.

Based on information contained in Table 2.18-1, the increase in speeds, decrease in travel time, and average delay per vehicle indicates there would be an improvement during the Design Year (2045) under Alternative 2 (Build Alternative). Congestion levels would be reduced under Alternative 2 (Build Alternative) when compared with Alternative 1 (No-Build Alternative). Therefore, Alternative 2 (Build Alternative) would result in a beneficial impact on the network performance of EB I-10 within the Project limits.

2.18.2.2 Electricity and Natural Gas

Southern California Edison (SCE) provides electricity service to the area within the Project limits. The production of electricity requires the consumption of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources. Most of these resources are used as heat sources for steam turbines that drive electric generators. The electricity generated is distributed via a network of transmission and distribution lines, commonly known as a power grid.

California Public Utilities Commission

CPUC regulates privately owned electric, telecommunications, natural gas, water, and transportation companies, as well as household goods movers. It also oversees rail safety. In addition, CPUC regulates local natural gas distribution facilities and services, natural gas procurement, intrastate pipelines, and intrastate production and gathering. It works to provide opportunities for competition in the interest of consumers, takes the lead in the environmental review of natural gas-related projects, recognizes the growing interaction of electric and gas markets, and monitors gas energy efficiency and other public-purpose programs. Natural gas is California's preferred fuel because of its clean-burning capabilities. Natural gas is also used to generate electricity. The CPUC's Energy Division works to set electric rates, protect consumers, and promote energy efficiency, electric system reliability, and utility financial integrity.

2.18.3 Environmental Consequences

2.18.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

No construction would occur under Alternative 1 (No-Build Alternative). Alternative 1(No-Build Alternative) would not involve any construction energy impacts. Therefore, no impact on energy consumption would occur.

Alternative 2 (Build Alternative)

Temporary Direct Energy Use

Construction of Alternative 2 (Build Alternative) would involve temporary fuel usage associated with construction vehicles and equipment. Project construction would involve grubbing/land clearing, grading/excavation, drainage/utilities/sub-grade, paving, and striping. The Project's construction emissions under Alternative 2 (Build Alternative) were estimated using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0. Default equipment assumptions for the road construction emissions model were used in developing the emissions estimates. The emissions assume that the schedule for all improvements is anticipated to begin in 2020 and end in 2023. Table 2.18-2 provides the peak daily diesel fuel consumption for Alternative 2 (Build Alternative).

Table 2.18-2. Construction Fuel Consumption for Alternative 2 (Build Alternative)

Project Phase	Diesel Fuel Consumption (gallons per day)
Grubbing/land clearing	203.1
Grading/excavation	540.8
Drainage/utilities/sub-grade	396.1
Paving	265.3
Maximum daily	540.8
Project total (gallons)	334,406

Source: Caltrans 2019g

The grading and excavation phase during construction activities would result in maximum daily fuel consumption and be the most energy intensive. As indicated above, energy use associated with Project construction under Alternative 2 (Build Alternative) is estimated to result in the short-term consumption of 334,406 gallons of diesel fuel from construction equipment. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary, and demand for fuel would have no noticeable effect on peak or baseline demands for energy.

The Project would comply with all SCAQMD regulations regarding use of construction vehicles and equipment. During construction activities, construction traffic would be scheduled and reduce congestion caused by idling vehicles along local roads during peak travel times (Caltrans 2019g), as referenced in Measure AQ-3 in Section 2.16, Air Quality.

Measure AQ-3 would reduce construction-related energy consumption by idling vehicles. As construction activities would last approximately 3 years, construction-related energy consumption would be temporary, and demand for fuel would have no noticeable effect on energy resources. In addition, energy minimization measures would reduce energy use during construction activities. With implementation of Measure AQ-3 and minimization measure E-2 to reduce construction-related vehicle and equipment energy consumption, the Project under Alternative 2 (Build Alternative) would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction.

Temporary Indirect Energy Use

Construction indirect energy consumption would result from traffic delays due to construction. The implementation of a TMP, referenced in Measure TR-1 in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, would reduce construction-related traffic impacts. The TMP would assist in managing traffic congestion and provide signage to affected residents and businesses in the event temporary closures or detours are warranted during construction activities. Compared with direct energy use by construction vehicles and equipment, indirect energy use due to construction-related traffic delays would be minimal and be reduced with implementation of the TMP. Therefore, no substantial temporary adverse effects on energy resources are anticipated.

2.18.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

No construction would occur under Alternative 1 (No-Build Alternative). Therefore, no impact on energy consumption would occur.

Alternative 2 (Build Alternative)

Vehicle Energy Consumption

Alternative 2 (Build Alternative) would not generate new vehicular traffic trips, as it would not construct new homes or businesses. Based on the TOAR (Caltrans 2018a), Alternative 2 (Build Alternative) yields superior LOS results when compared with Alternative 1 (No-Build Alternative). As a result, energy savings are associated with Alternative 2 (Build Alternative) compared with Alternative 1 (No-Build Alternative). Regional VMT data for the existing conditions, Alternative 1

(No-Build Alternative), and Alternative 2 (Build Alternative), along with the EMFAC2017 emission rates, were used to calculate the gasoline and diesel fuel consumptions. As shown in Table 2.18-3, some traffic currently utilizing other routes may use the new facilities, resulting in increased VMT and fuel consumption within the Project limits.

Although there is a modeled increase in VMT, during operation of the Project over the long term, newer and more fuel-efficient vehicles would enter the fleet, resulting in an overall lower potential for an increase in energy consumption due to vehicle traffic. When compared with Alternative 1 (No-Build Alternative), Alternative 2 (Build Alternative) would result in a minimal increase in fuel consumption. Compared with Alternative 1 (No-Build Alternative), the Project under Alternative 2 (Build Alternative) would improve highway operations and reduce traffic delay within the Project limits. Thus, vehicle delay and congestion within the Project limits would decrease compared with Alternative 1 (No-Build Alternative).

Table 2.18-3. Modeled Annual Fuel Consumption and Vehicle Miles Traveled by Alternative

Alternative	Annual VMT[a]	Annual Diesel Fuel Consumption (gallons)	Annual Gasoline Fuel Consumption (gallons)
Existing/baseline (2017)	274,702,550	781,383	11,829,528
Opening Year (2025)			
Alternative 1 (No-Build Alternative)	309,641,980	710,580	10,757,628
Alternative 2 (Build Alternative)	310,561,530	712,690	10,789,575
Design Year (2045)			
Alternative 1 (No-Build Alternative)	351,181,350	634,590	9,607,202
Alternative 2 (Build Alternative)	365,106,460	659,753	9,988,149

Source: Caltrans 2019g

Notes:

[a] Annual VMT values derived from daily VMT values were multiplied by 347, per CARB methodology (CARB 2008).

VMT=vehicle miles traveled

Electricity Consumption during Project Operation

SCE provides electricity service within the Project limits. Operational direct energy use would include electricity usage associated with highway and street lighting as part of Project improvements. Light-emitting diode (LED) lights consume 10 percent of the electricity of traditional lights. With the implementation of Measure E-1, which proposes the incorporation of LED lights as part of the Project, electricity consumption associated with the Project's operational energy impacts would be minimized, and no substantial permanent adverse effects are anticipated.

Long-Term Indirect Energy Use

Indirect energy use involving maintenance activities on roadways would result in long-term indirect energy consumption by equipment required to operate and maintain the roadway. However, this long-term indirect energy use would be minimal compared with the direct energy use by vehicles on roadways within the Project limits. Therefore, Alternative 2 (Build Alternative) would not have substantial adverse long-term indirect energy effects.

2.18.3.3 Total Energy Impacts

Based on the TOAR (Caltrans 2018a), Alternative 2 (Build Alternative) yields superior LOS results compared with Alternative 1 (No-Build Alternative). As a result, energy savings are associated with Alternative 2 (Build Alternative) compared with Alternative 1 (No-Build Alternative). In addition, with implementation of Measure AQ-3, as referenced in Section 2.16, Air Quality, Measure TR-1, as referenced in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, as well as short-term construction minimization identified in Measure E-2, the Project under Alternative 2 (Build Alternative) would reduce impacts on energy resources. Therefore, when balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, Alternative 2 (Build Alternative) would not have substantial adverse total energy effects.

2.18.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to Measure AQ-3, as referenced in Section 2.16, Air Quality, Measure TR-1, as referenced in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, the following minimization measures will be implemented:

E-1 During final design, SBCTA will ensure that any lighting proposed as part of the proposed roadway improvements are energy-efficient, which would include LED lighting, to the extent feasible.

E-2 During final design, SBCTA will ensure that a construction efficiency plan be prepared, which may include the following:

- Reuse of existing guard rail, steel, and lumber, wherever possible, such as for falsework, shoring, and other applications during the construction process
- Recycling of asphalt and concrete taken up from existing median shoulders, where practicable and cost-effective
- Use of newer, more energy-efficient equipment, where feasible, and maintenance of older construction equipment to keep in good working order
- Promoting of scheduling of construction operations to efficiently use construction equipment (i.e., only haul waste when haul trucks are full and combine smaller dozer operations into a single comprehensive operation, where possible)
- Promotion of construction employee carpooling
- Reuse of existing sign panels with the implementation of overlays rather than full replacement sign panels

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Biological Environment

2.19 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value. Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species, Section 2.23. Wetlands and other waters are also discussed in Section 2.20.

2.19.1 Affected Environment

This section is based on the NES(MI) (Caltrans 2019j) prepared for the Project.

2.19.1.1 Biological Study Area

The biological study area (BSA) includes the maximum disturbance limits associated with Project activities, plus a 50-foot buffer. The BSA was used as the study limit for general biological field studies, where access was permitted. In addition to the BSA, a 500-foot endangered species and BUOW buffer was established around the Project survey boundary to evaluate the presence of suitable habitat for coastal California gnatcatcher (*Polioptila californica californica*) [CAGN]), SWFL (*Empidonax traillii extimus*), LBVI (*Vireo bellii pusillus*), and BUOW (*Athene cunicularia*). The BSA and 500-foot endangered species and BUOW buffer are shown on Figure 2.19-1.

The BSA is located between the foothills of the San Bernardino Mountains to the north and San Timoteo Canyon to the south. Adjacent open space and washes within the BSA provide local connectivity for urban-tolerant wildlife species, such as coyotes, birds, and rabbits.

The majority of the BSA is developed and consists of the I-10 ROW and adjacent commercial and residential development. There is undeveloped habitat adjacent to I-10 throughout the BSA. In general, the BSA supports a low diversity of plant species, and plant and wildlife species observed are commonly associated with disturbed or developed areas.

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Figure 2.19-1. Biological Study Area and 500-Foot Endangered Species and Burrowing Owl Buffer Survey Area

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The BSA supports five different vegetation communities or other land cover types, with the predominant land cover identified as Urban/Developed. Urban/Developed, Disturbed/Ruderal, and Disturbed Buckwheat Scrub occur in the areas immediately adjacent to the I-10 corridor, with small patches of Disturbed Riparian scrub located in Wilson Creek. Wilson Creek and Wildwood Wash support areas mapped as Unvegetated Wash. Of the vegetation communities identified within the BSA, Disturbed Buckwheat Scrub and Disturbed Riparian Scrub are considered sensitive.

Vegetation communities mapped within the BSA are shown on Figure 2.19-2. A summary of existing acreages is provided in Table 2.19-1, and a description of each vegetation community or other land cover type is provided below.

Table 2.19-1. Vegetation Communities and Other Land Cover Types within the Biological Study Area

Vegetation Community	Existing Acreage
Disturbed Buckwheat Scrub	1.16
Disturbed Riparian Scrub	0.46
Unvegetated Wash	0.26[a]
Disturbed/Ruderal	16.20
Urban/Developed	84.29[a]
Total Acreage	**102.36**

Notes:

[a] Acreages provided in this table account only for the developed areas associated with the bridges over I-10 at Wilson Creek. Due to the multiple layers of vegetation that occur as a result of the bridges and habitat mapped underneath them, the acreage of Unvegetated Wash shown in this table is less than the acreage of areas mapped as Unvegetated Streambed in support of the JD.

I-10=Interstate 10; JD=jurisdictional delineation

Disturbed Buckwheat Scrub

Disturbed Buckwheat Scrub is a subset of Coastal Scrub and is described by the *Manual of California Vegetation* (Sawyer et al. 2009) as *Eriogonum fasciculatum* Shrubland Alliance. This community occurs in uplands, on slopes, and occasionally on rarely flooded low-gradient deposits along streams. Soils are generally shallow and rocky. Buckwheat scrub is generally comprised of a

variety of soft-leaved, low stature shrubs characteristically dominated by drought-deciduous species, such as California buckwheat (*Eriogonum fasciculatum*), deer weed (*Acmispon glaber*), and sages (*Salvia* spp.), with scattered evergreen shrubs, such as lemonade berry (*Rhus integrifolia*).

Throughout Southern California, coastal scrub communities have become displaced by spreading urbanization. Many rare and endangered species occur in coastal scrub and associated plant communities. Consequently, degradation and displacement of coastal scrub has also resulted in substantial habitat loss for a variety of animal species. Therefore, coastal scrub is considered a sensitive natural community by CDFW and United States Fish and Wildlife Service (USFWS).

Disturbed Buckwheat Scrub occurs in small isolated patches within the BSA on slopes adjacent to I-10. Within the BSA, Disturbed Buckwheat Scrub is dominated by California buckwheat, with a lower cover of brittlebush (*Encelia farinosa*) in the shrub canopy and non-native annual grasses in the understory. The BSA supports 1.16 acre of Disturbed Buckwheat Scrub.

Disturbed Riparian Scrub

Disturbed Riparian Scrub is associated with riverine areas and alluvial floodplains. Within the BSA, Disturbed Riparian Scrub is dominated by non-native, invasive plant species, including tree of heaven (*Ailanthus altissimus*) in the overstory and castor bean (*Ricinus communis*) in the understory. The structure of this community within the BSA is best described by the *Manual of California Vegetation's* system as *Ailanthus altissima* Woodland Semi-Natural Alliance. Within the BSA, this community occurs in Wilson Creek. Tree of heaven, castor bean, and edible fig (*Ficus carica*), also a non-native, occur on the lower banks of the channel. There is one native black willow (*Salix goodingii*) tree and a small patch of mule fat (*Baccharis salicifolia*) near the I-10 EB bridge. The BSA supports 0.46 acre of Disturbed Riparian Scrub.

USFWS defines riparian habitats as plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic and lentic water bodies (rivers, streams, lakes, or drainage ways). Riparian habitats are usually transitional between wetland and upland areas and support distinctly different vegetative species than adjacent areas, typically with more vigorous or robust growth forms (National Research Council 2002).

Aside from providing water and foraging and nesting habitat, riparian communities provide habitat to many species of plants and wildlife and often occur along corridors that provide open space and movement for wildlife in otherwise developed areas. The typical association of these riparian habitat types with drainages means they are protected under Section 1600 of the California Fish and Game Code and, if determined to support wetlands according to USACE criteria, by Sections 401 and 404 of the CWA.

Unvegetated Wash

Unvegetated Wash consists of riverine areas that do not support any vegetation. Within the BSA, many of the washes are maintained for flood control purposes, and vegetation is routinely removed. Some of the washes are also subject to high rates of flow during storm events, and vegetation is regularly scoured. The BSA supports 0.26 acre of Unvegetated Wash associated with Wilson Creek and Wildwood Wash.

Disturbed/Ruderal

Areas mapped as Disturbed/Ruderal consist of land that was previously graded and cleared of vegetation but non-native vegetation has since re-established. Due to compacted soils, only species tolerant of high levels of disturbance are able to grow. Most of the Disturbed/Ruderal vegetation within the BSA is dominated by a dense cover of Russian thistle (*Salsola tragus*), with smaller patches of the native doveweed (*Croton setiger*) and non-native grasses, including ripgut brome (*Bromus diandrus*). Disturbed/Ruderal communities within the BSA provide little wildlife value but can provide space for movement and nesting for bird species adapted to human disturbance. A total of 16.20 acres of Disturbed/Ruderal land occur within the BSA.

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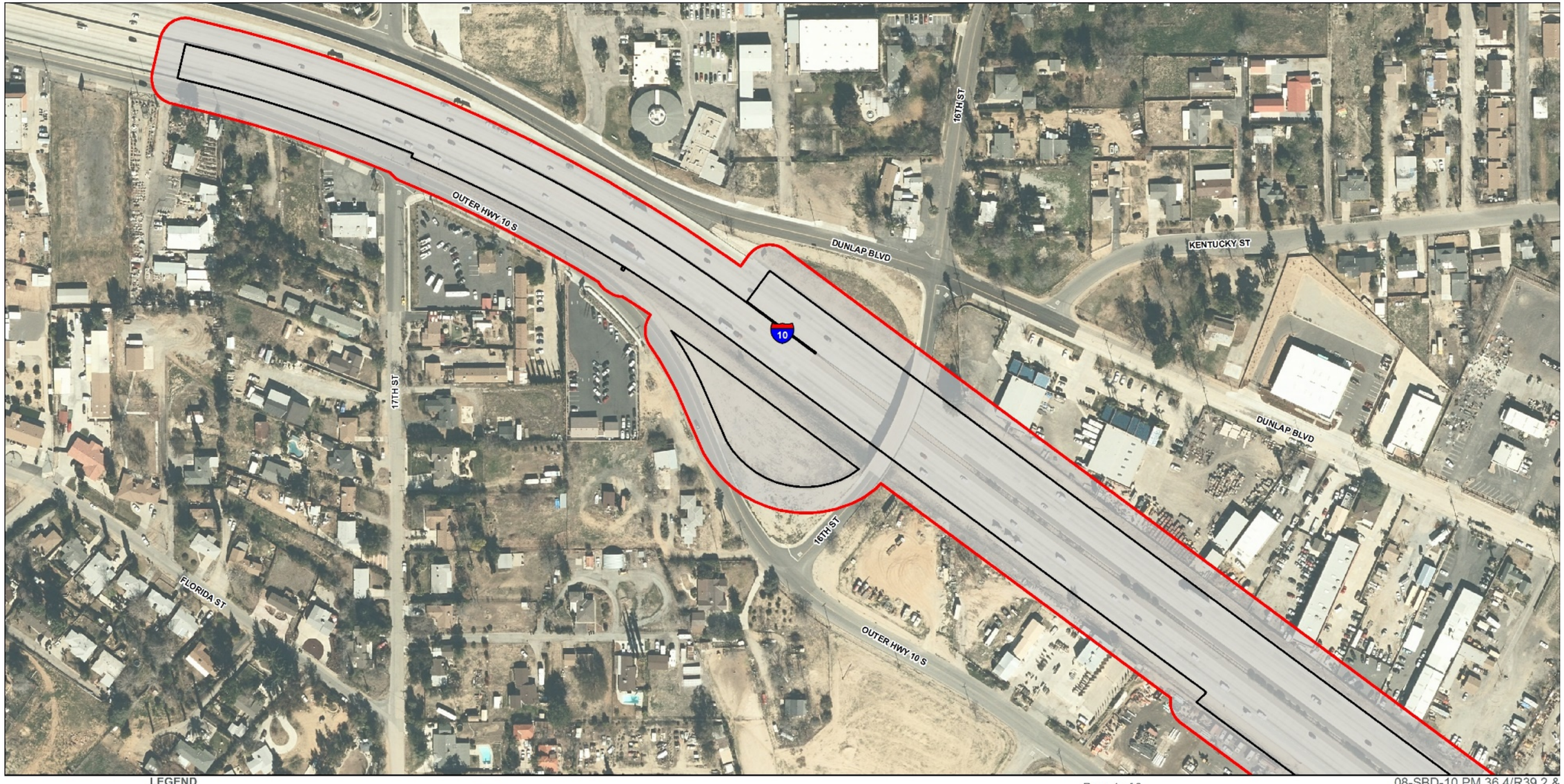


Figure 2.19-2. Vegetation Communities and Other Land Cover Types in the Biological Study Area
Sheet 1 of 6

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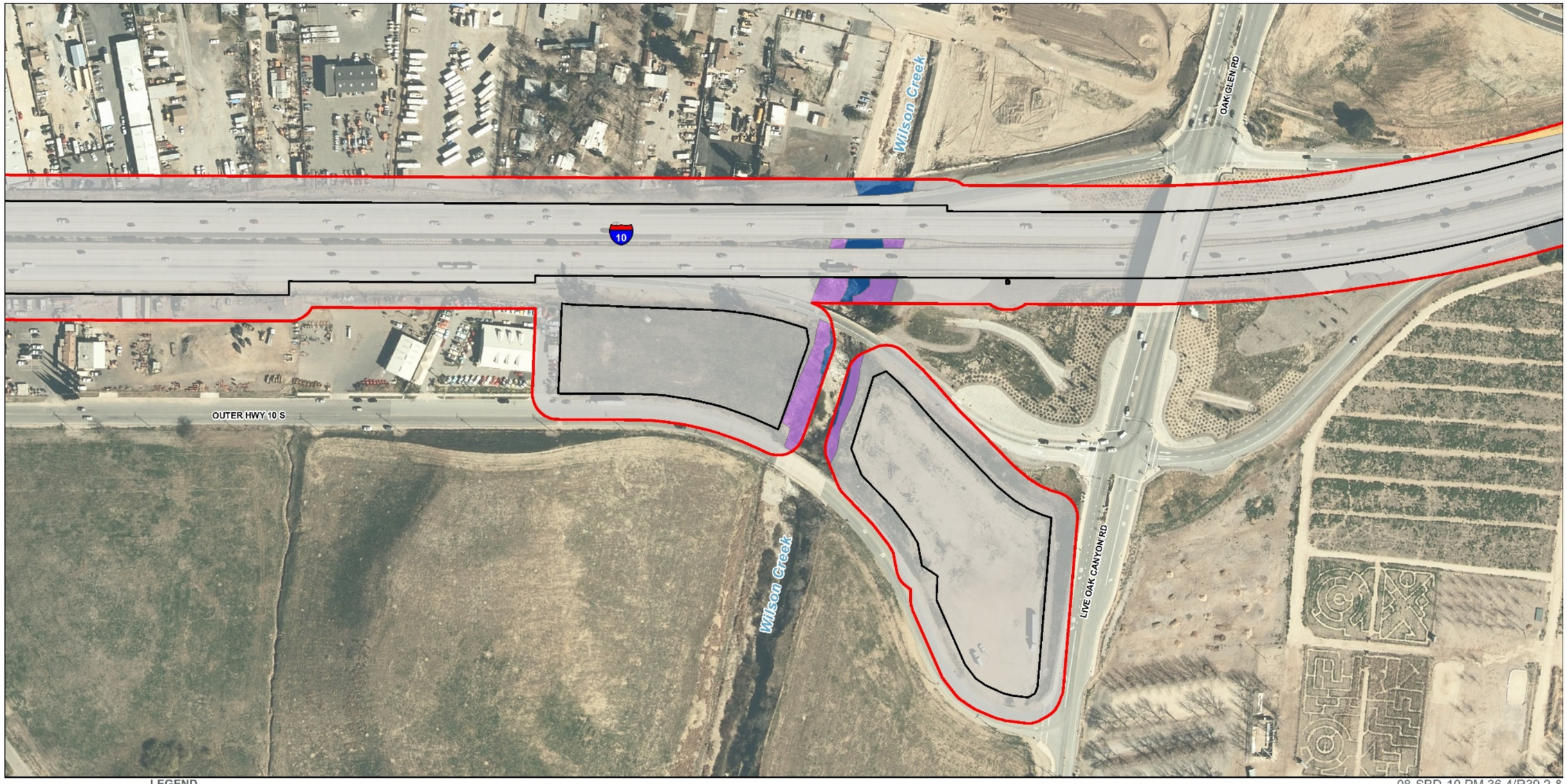


Figure 2.19-2. Vegetation Communities and Other Land Cover Types in the Biological Study Area
Sheet 2 of 6

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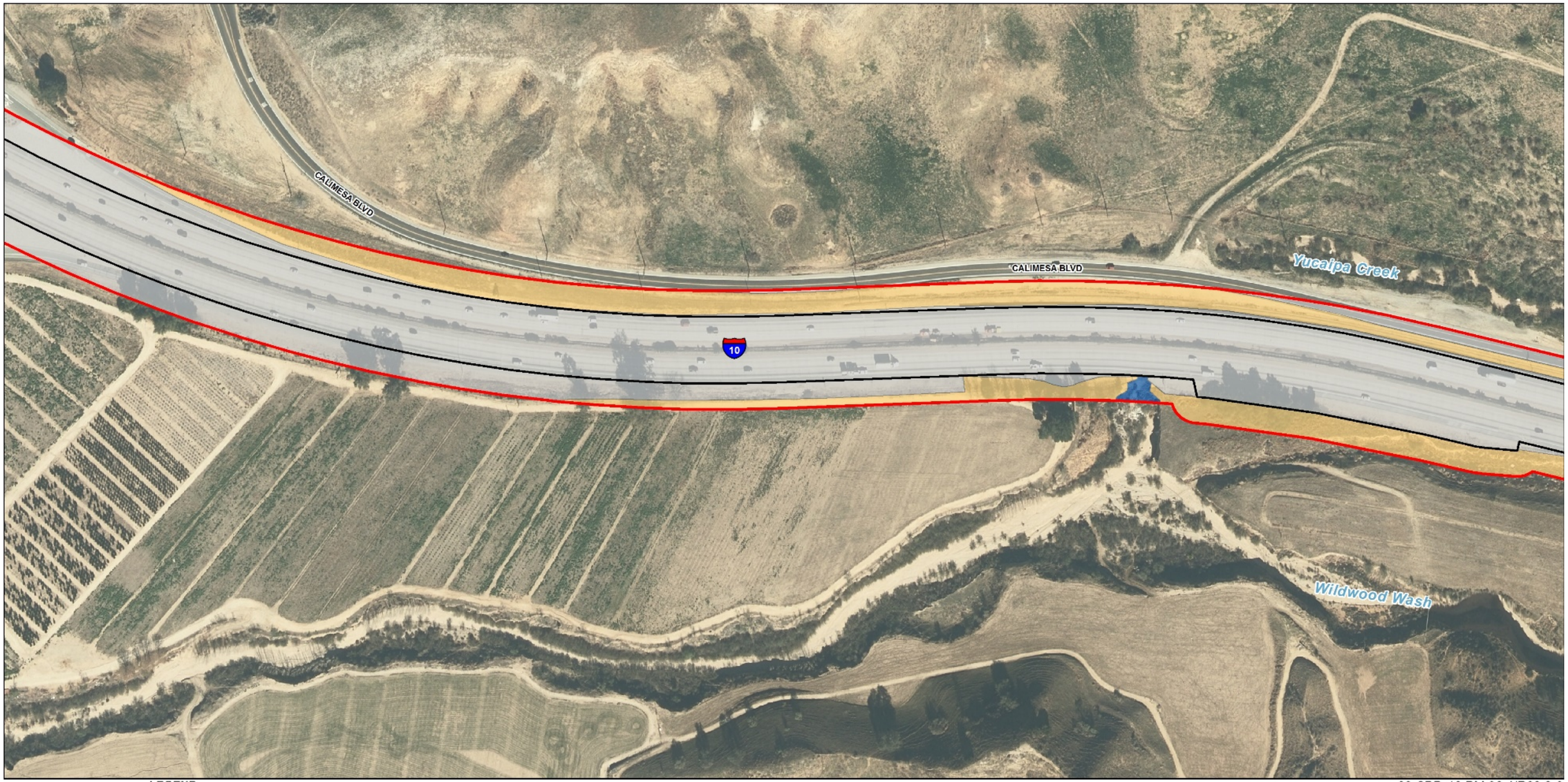


Figure 2.19-2. Vegetation Communities and Other Land Cover Types in the Biological Study Area
Sheet 3 of 6

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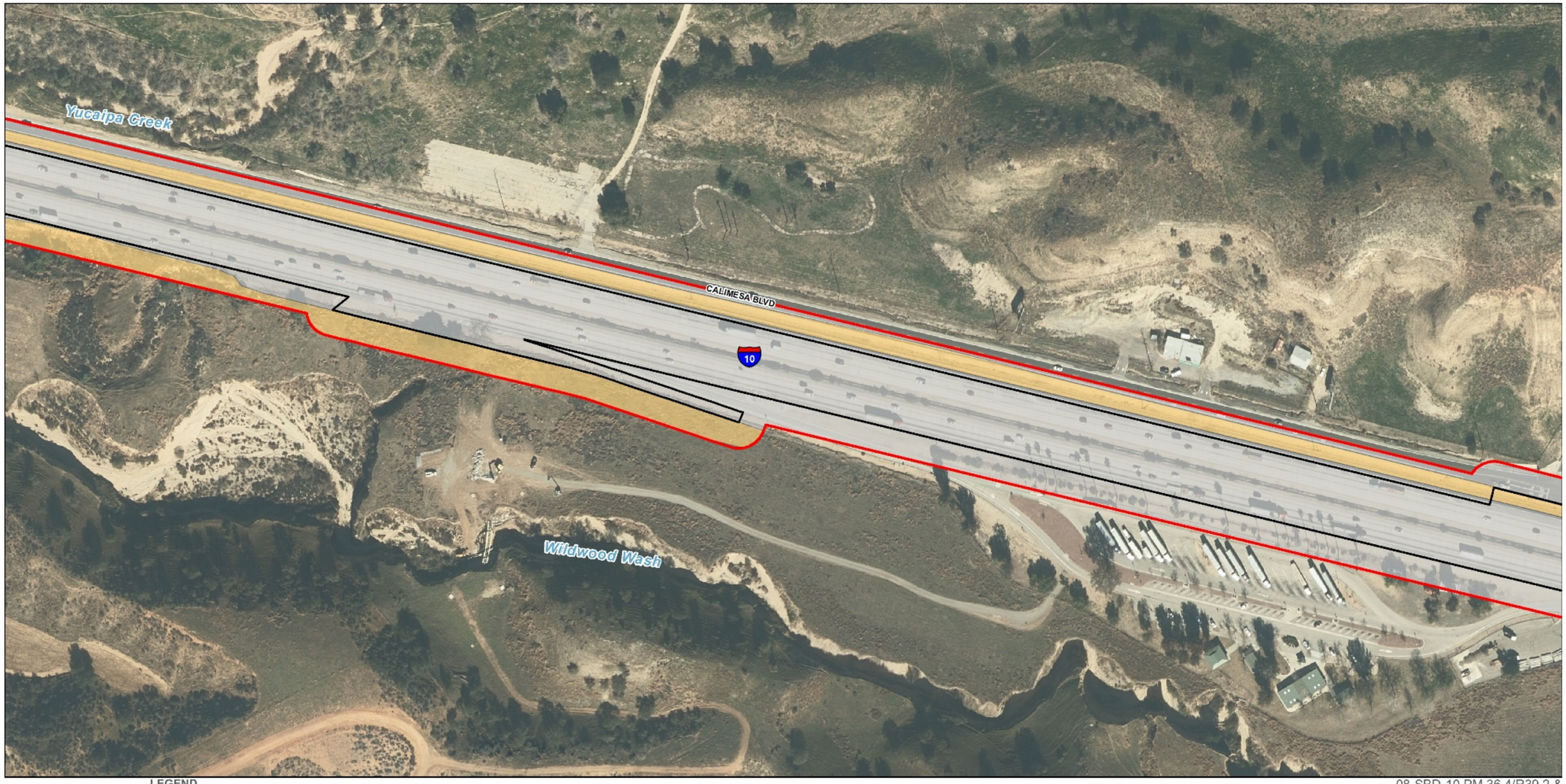


Figure 2.19-2. Vegetation Communities and Other Land Cover Types in the Biological Study Area
Sheet 4 of 6

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Figure 2.19-2. Vegetation Communities and Other Land Cover Types in the Biological Study Area
Sheet 5 of 6

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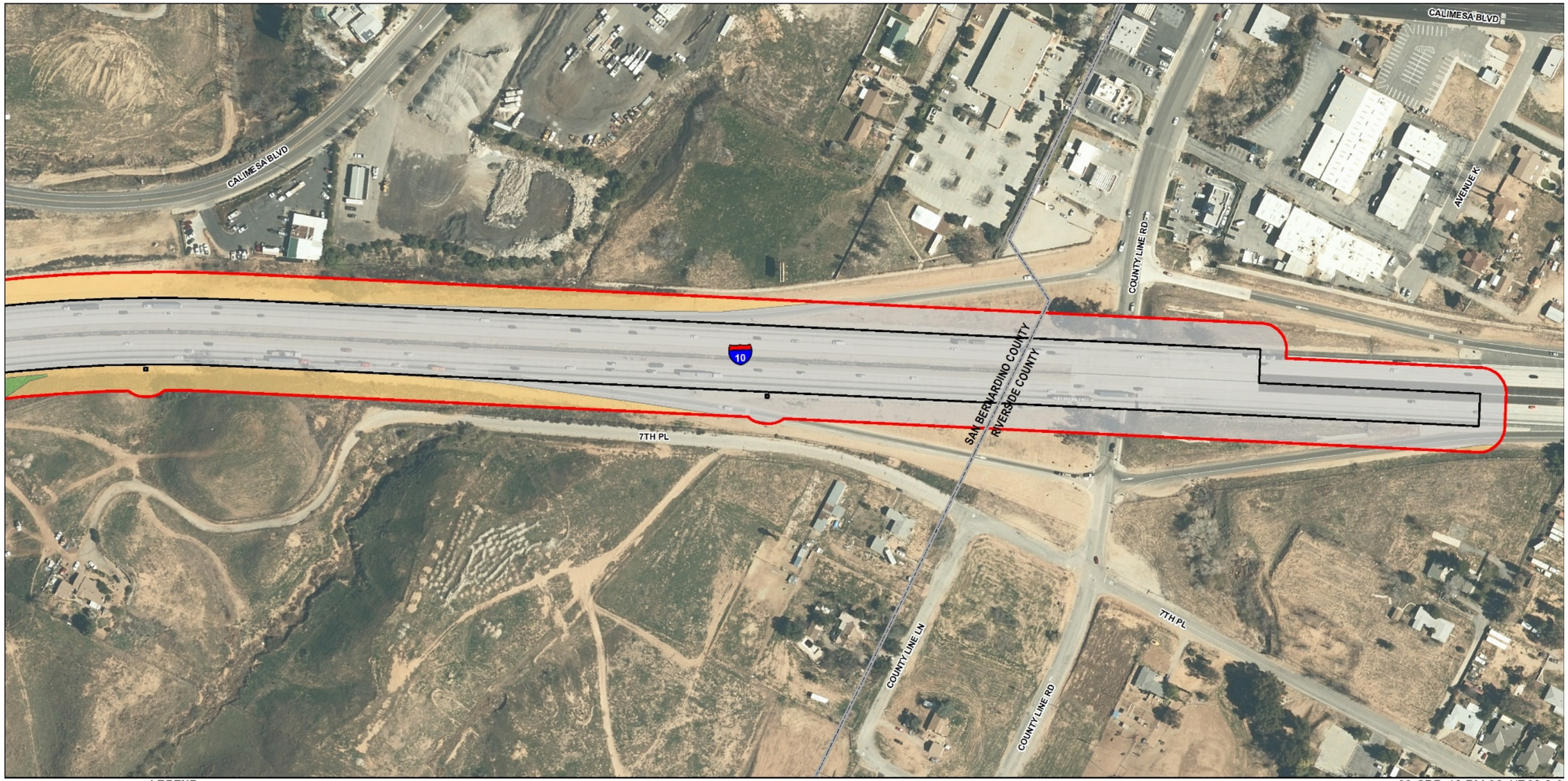


Figure 2.19-2. Vegetation Communities and Other Land Cover Types in the Biological Study Area
Sheet 6 of 6

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Urban/Developed

Urban/Developed land is comprised of areas of intensive use with much of the land constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is highly modified and characterized by permanent or semi-permanent structures, pavement, unvegetated areas, and landscaped areas that require irrigation. Urban/Developed areas typically provide high value or function for human use but provide little habitat value to wildlife. Ornamental plantings can provide some use for wildlife movement or use by species adapted to human presence.

Within the BSA, Urban/Developed areas include paved roads, urban development, areas where non-native ornamental species and landscaping have been installed, and bare ground with compacted soils that no longer support vegetation. A total of 84.29 acres of Urban/Developed land occur within the BSA.

2.19.1.2 Wildlife Corridors

The BSA is not located within any areas defined by the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) as a Core or Linkage. However, both Wildwood Wash and Wilson Creek were identified in the City of Yucaipa's General Plan (City of Yucaipa 2016) as wildlife movement corridors providing important habitat connectivity between the San Bernardino Mountains to the north and San Gorgonio Wilderness to the south. In addition, wildlife access across Wildwood Wash was constructed (in accordance with USACE specifications) as part of a previous Caltrans project (08-37750) to correct a failed wingwall and scouring. A series of migratory ramps were built along the south side of the check dams, adjacent to EB I-10.

2.19.2 Environmental Consequences

2.19.2.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in the construction of any of the proposed improvements to I-10 and, therefore, would not result in temporary effects on natural communities in the BSA.

Alternative 2 (Build Alternative)

Natural Communities

Alternative 2 (Build Alternative) would not result in any direct or indirect temporary impacts on Disturbed Buckwheat Scrub. Alternative 2 (Build Alternative) would result in direct temporary impacts

on 0.01 acre of Disturbed Riparian Scrub as a result of equipment access and work areas needed to construct new bridge piers in Wilson Creek (Figure 2.19-3).

Temporary Project impacts on sensitive natural communities would be reduced to the fullest extent possible in areas with Disturbed Buckwheat Scrub and Disturbed Riparian Scrub vegetation. The refinement of the temporary Project limits near Disturbed Buckwheat Scrub allows for the avoidance of direct Project impacts on this community (Figure 2.19-3). The Project team also identified alternative access routes at Wilson Creek Bridge that would result in the least impact on Disturbed Riparian Scrub. The preferred access route selected for Alternative 2 (Build Alternative) is located in the freeway median, which avoids higher quality riparian scrub habitat that occurs downstream of the I-10 EB bridges over Wilson Creek. The Project would not result in habitat fragmentation of Disturbed Buckwheat Scrub and Disturbed Riparian Scrub vegetation.

As identified in Measure NC-1, Disturbed Buckwheat Scrub within the BSA will be identified as ESAs. Prior to construction, exclusionary fencing will be installed around all ESAs to prevent accidental encroachment into these areas. In addition, implementation of Measures NC-2 through NC-4 will require the implementation of standard BMPs aimed at preventing the spread of invasive species and providing temporary sediment control, soil stabilization, and the preservation of existing vegetation, as applicable. With implementation of Measures NC-1 through NC-4, no substantial temporary adverse effects on natural communities are anticipated under Alternative 2 (Build Alternative).

Wildlife Corridors

Alternative 2 (Build Alternative) would result in direct temporary effects on the use of Wilson Creek as a wildlife corridor as a result of construction access and temporary placement of falsework in Wilson Creek during widening of the bridge over Wilson Creek. It is anticipated that construction activities at Wilson Creek would last approximately 4 months and consist of daytime activities only. Temporary falsework would be constructed at the base of the existing bridge to allow access to the bridge deck. Falsework within Wilson Creek would first be constructed for work on the foundations and segments of the concrete foundation walls. Once work is complete, temporary supports would be constructed between the existing concrete walls to support bridge deck construction. Temporary supports, parallel to the existing concrete walls, would be constructed over 2 to 3 days and would measure approximately 2 to 3 feet in width. Therefore, the falsework would not impede more than 10 percent of the entire width of the Wilson Creek at any point during construction.

As discussed in detail in Section 2.20, Wetlands and Other Waters, the Project will require coverage under a Section 404 USACE Nationwide Permit, a Streambed Alteration Notification (SAN) from

CDFW, and a Section 401 Water Quality Certification from RWQCB for Project impacts on Wilson Creek and other waters of the U.S. As part of these permits and certifications, mobile construction equipment would not be permitted to be left in the channel overnight and, as a result, Project construction would not impede nighttime wildlife use of Wilson Creek.

Considering that construction activities would only occur during daytime hours and that wildlife primarily travel through corridors adjacent to anthropogenic-influenced environments between dusk and dawn, wildlife would continue to be able to use Wilson Creek as a wildlife corridor during the estimated 4-month construction period. The temporary effects on the use of Wilson Creek as a wildlife corridor would not be a substantial effect that would require mitigation because wildlife access would not be impeded during construction activities.

2.19.2.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in the construction of any of the proposed improvements to I-10 or other disturbance within the BSA. Therefore, Alternative 1 (No-Build Alternative) is not anticipated to result in substantial adverse permanent effects on natural communities in the BSA.

Alternative 2 (Build Alternative)

Natural Communities

Alternative 2 (Build Alternative) would not result in permanent impacts on Disturbed Buckwheat Scrub. It would result in permanent loss of 0.03 acre of Disturbed Riparian Scrub as a result of constructing new bridge piers in Wilson Creek (Figure 2.19-3). Proposed access during the bridge widening would be through the I-10 median, which would result in fewer direct impacts on riparian habitat. Proposed staging areas located on the south side of the I-10 EB off-ramp at Live Oak Canyon Road are not anticipated to have direct access to Wilson Creek.

Wildlife Corridors

Alternative 2 (Build Alternative) would result in permanent loss of a 0.03 acre within Wilson Creek as a result of bridge pier placement. However, bridge piers would not reduce the width of the existing wildlife crossing area or result in permanent loss of this space for wildlife movement and would be located adjacent to existing bridge piers.

Alternative 2 (Build Alternative) would not result in any permanent effects on Wildwood Wash or the modified wildlife access structure and would not result in any permanent restriction of wildlife movement within Wildwood Wash. In addition, the proposed Project would not permanently impact

any connection of the BSA to adjacent open space areas, and no reduction of wildlife movement corridors within the BSA is anticipated.



Figure 2.19-3. Proposed Impacts on Vegetation Communities and Other Land Cover Types
Sheet 1 of 6

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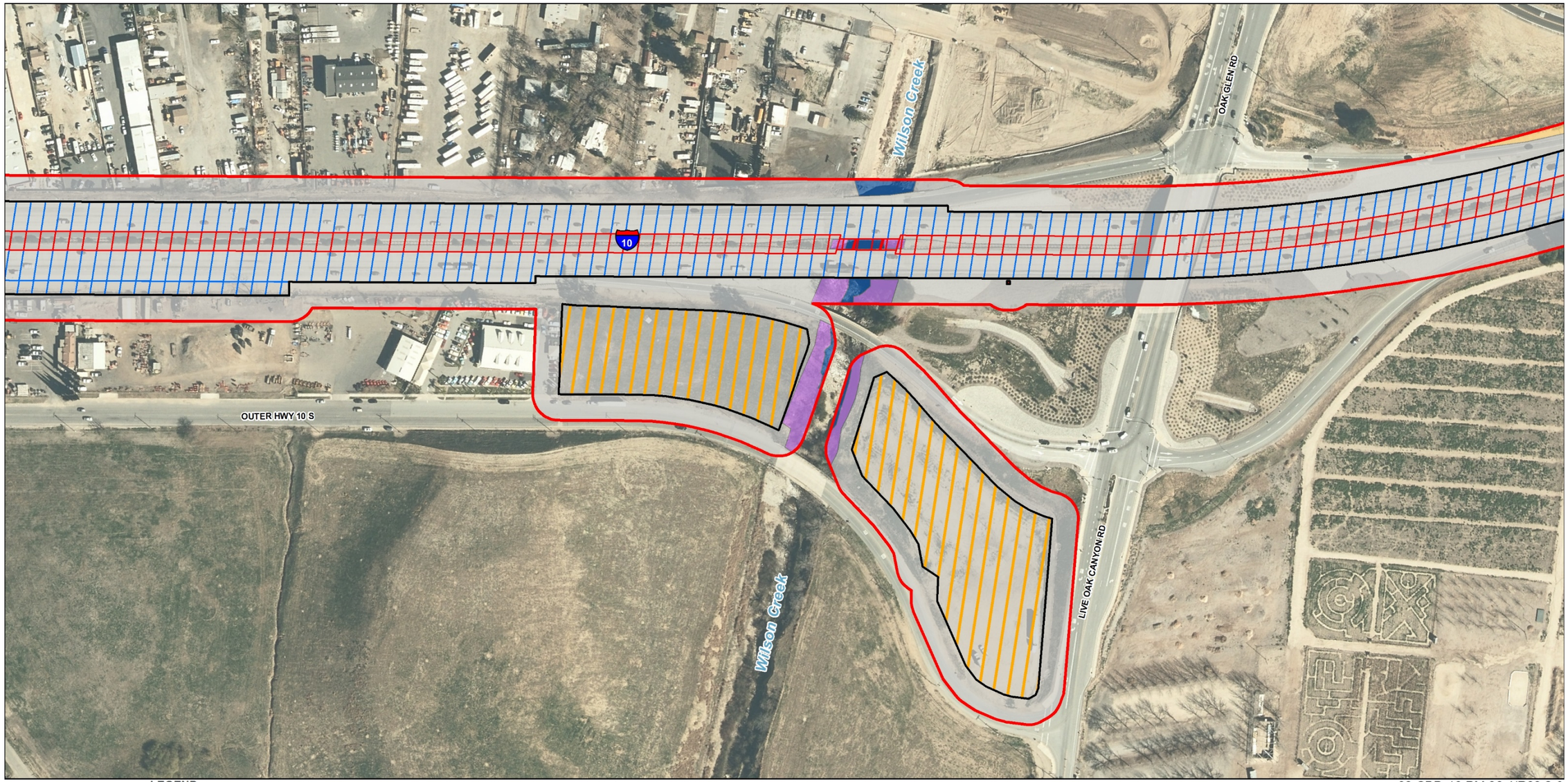


Figure 2.19-3. Proposed Impacts on Vegetation Communities and Other Land Cover Types
Sheet 2 of 6

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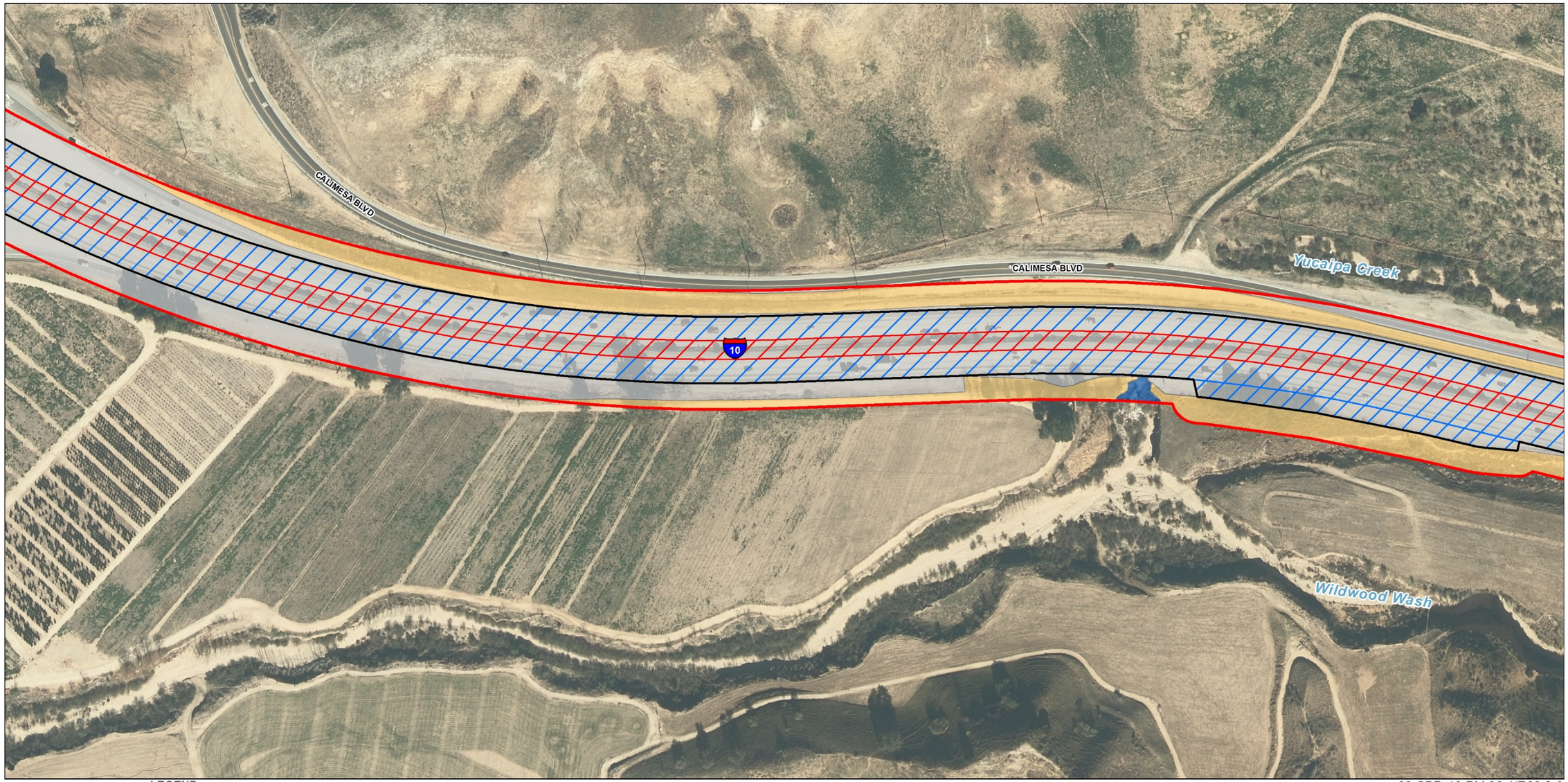


Figure 2.19-3. Proposed Impacts on Vegetation Communities and Other Land Cover Types
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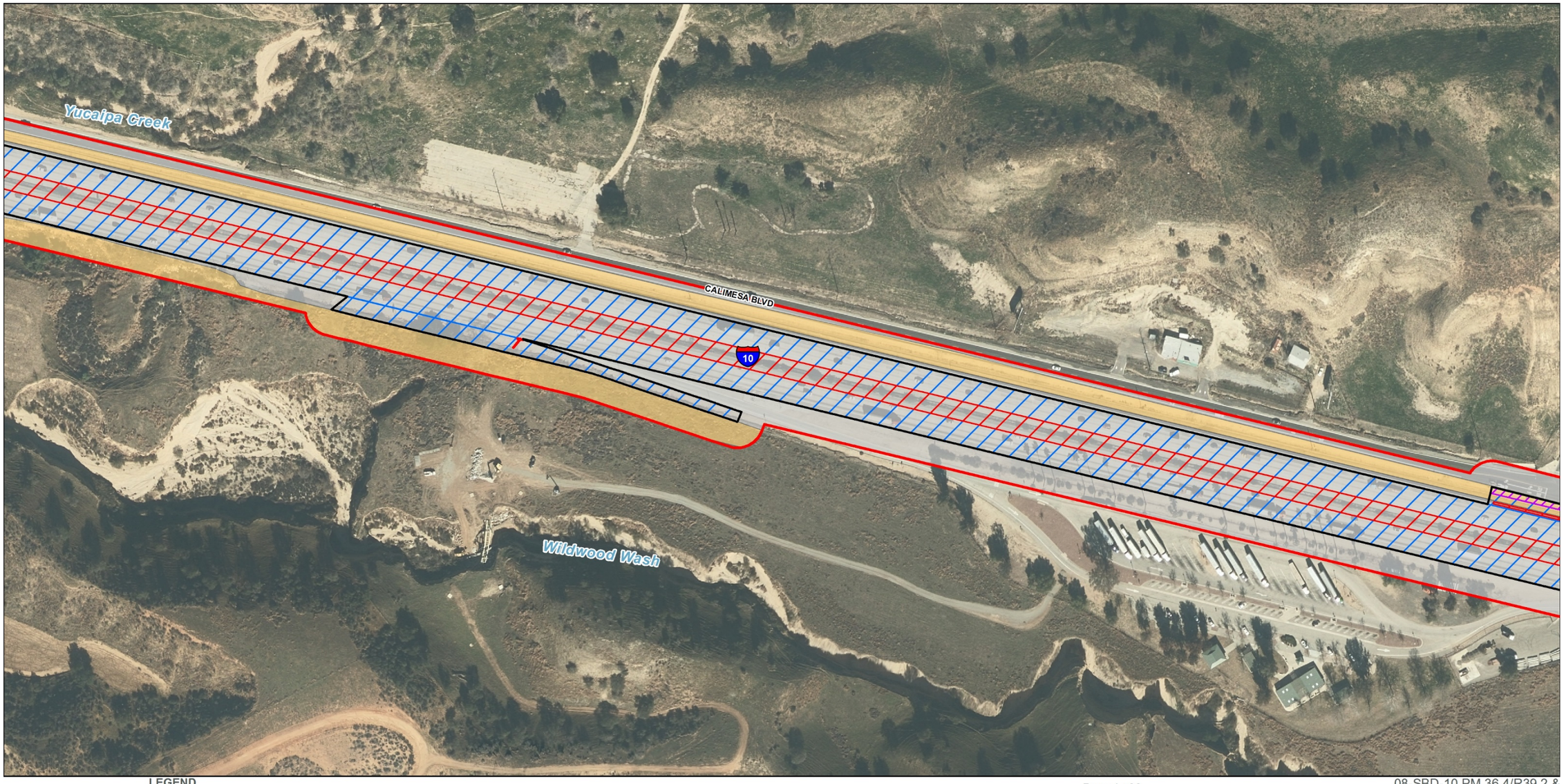


Figure 2.19-3. Proposed Impacts on Vegetation Communities and Other Land Cover Types
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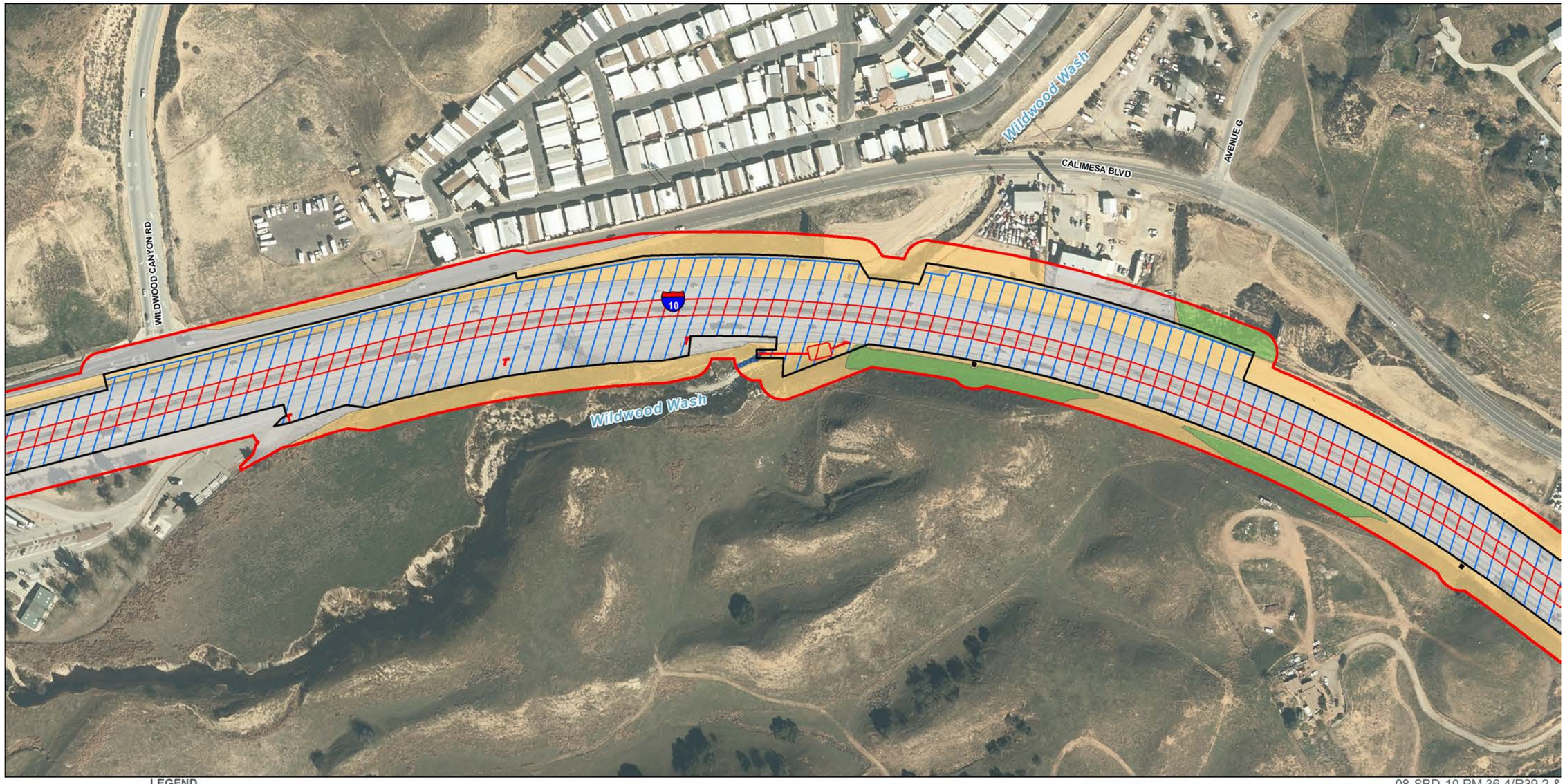


Figure 2.19-3. Proposed Impacts on Vegetation Communities and Other Land Cover Types
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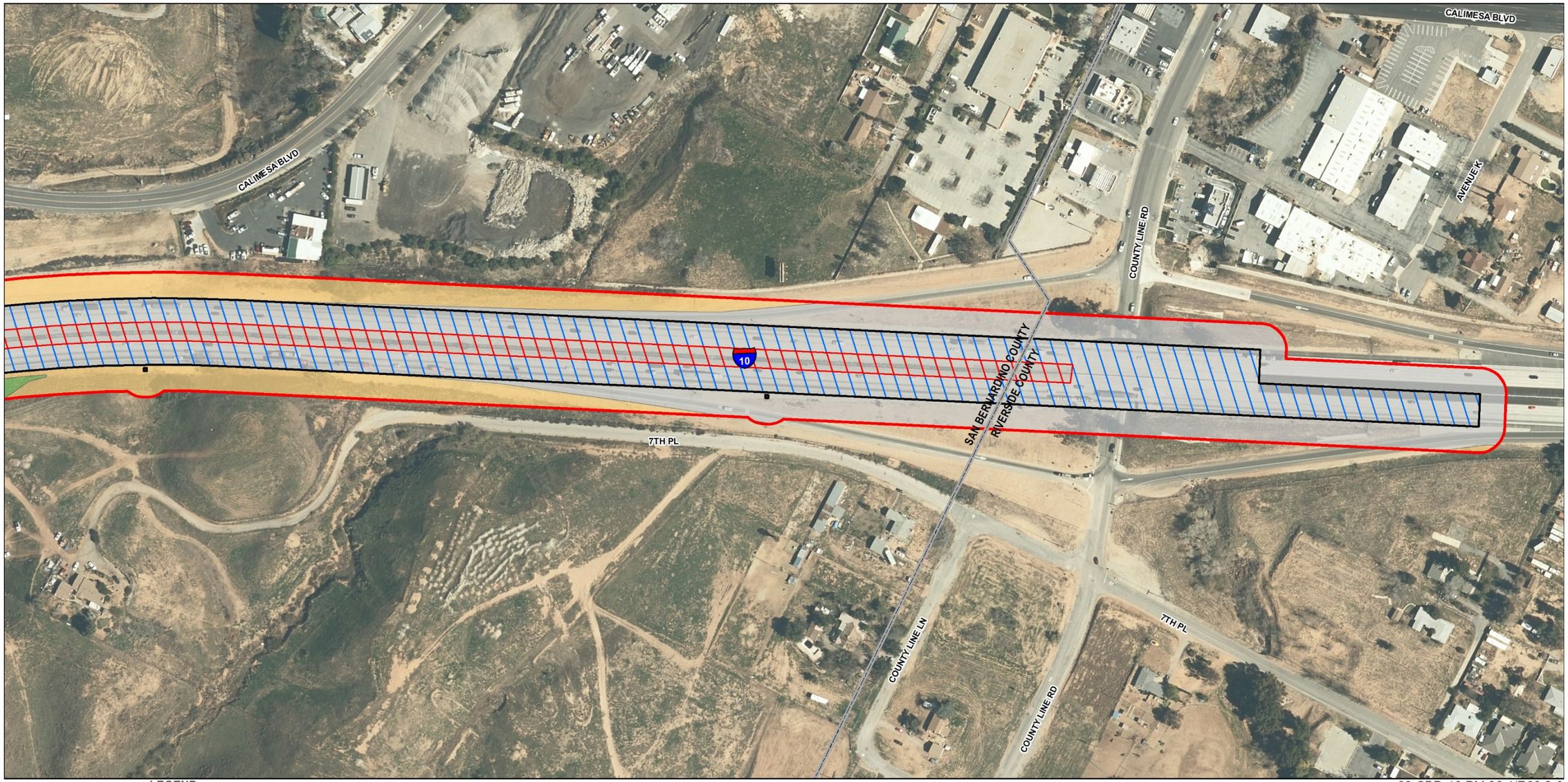


Figure 2.19-3. Proposed Impacts on Vegetation Communities and Other Land Cover Types
Sheet 6 of 6

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2.19.3 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measures will be implemented to avoid and/or minimize potential indirect and direct temporary and permanent effects on Disturbed Buckwheat Scrub and Disturbed Riparian Scrub within the BSA. Measures will be implemented under SBCTA and Caltrans oversight. Any changes will require SBCTA and Caltrans approvals.

NC-1 Non-impacted Disturbed Buckwheat Scrub, Unvegetated Wash, and Disturbed Riparian Scrub habitat within the BSA outside of the Project limits will be identified as ESAs. Prior to construction, exclusionary fencing will be installed around all ESAs under the supervision of a qualified biologist familiar with the biological resources in the BSA to prevent accidental encroachment into these areas.

NC-2 To prevent the introduction and spread of invasive species to and from Project work areas into ESAs, the Caltrans SSP 14-6.05, Invasive Species Control, will be implemented during work adjacent to Disturbed Buckwheat Scrub, Riparian Scrub, and aquatic resources.

NC-3 When Project activities are conducted during the fire season (as identified by the San Bernardino County Fire Authority) adjacent to any vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, and water tankers) will be available on site during all phases of Project construction to help minimize the potential for human-caused wildfires. Shields, protective mats, and/or other fire preventive methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will advise the construction contractors regarding fire risk from all construction-related activities.

NC-4 All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland (non-riparian) habitat areas. The designated upland areas will be located to prevent runoff from any spills from entering waters of the U.S. or CDFW-regulated streambed.

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2.20 Wetlands and Other Waters

2.20.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable

alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.12, Water Quality and Storm Water Runoff, for more details.

2.20.2 Affected Environment

This section is based on the NES(MI) and the *Jurisdictional Delineation* (JD) (Caltrans 2019k) prepared for the Project. The findings and conclusions of the JD are considered preliminary until verified by USACE, CDFW, and the RWQCB. A request for a preliminary JD would be submitted to USACE prior to approval of the Final IS/EA.

The jurisdictional study area (JSA), the area assessed for jurisdictional waters, was determined using the maximum disturbance limits associated with the Project (Figure 2.20-1). The JSA was limited to proposed direct impact areas but extended at Wilson Creek and Wildwood Creek, where temporary access was not identified but may be needed within jurisdictional limits.

United States Army Corps of Engineers Jurisdictional Areas

Proposed Jurisdictional Features

All channelized flows from the JSA eventually discharge into San Timoteo Wash, which is tributary to the Santa Ana River. Portions of the Santa Ana River are considered traditional navigable waters due to tidal influences at its mouth, approximately 62 river miles from the JSA. Since features within the JSA are tributary to a traditional navigable water, USACE has jurisdiction under Section 404 of the CWA.

The JSA supports two washes that have been modified to improve flood control in support of surrounding development: Wilson Creek and Wildwood Wash. The extent of USACE jurisdiction within each of these features was measured to the extent of the OHWM (Figure 2.19-2). The total acreage of potential USACE jurisdiction within the JSA is 0.19 acre, all of which is non-wetland.

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Figure 2.20-1. Jurisdictional Study Area

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Wilson Creek (Feature 1) originates north of the Project and extends south through the JSA (Figure 2.20-2). Wilson Creek consists of a maintained, soft-bottomed flood control channel for approximately 6 miles north of the JSA, where it traverses the JSA. Immediately south of I-10, Wilson Creek supports a small patch of riparian scrub dominated by tree of heaven. Specifically, non-native tree of heaven and edible fig occur on the banks of the channel. Native vegetation within the JSA includes one black willow tree and a small patch of mule fat south of the I-10 EB bridge over Wilson Creek. Photographs of the portion of Wilson Creek located within the JSA are included in the JD (Caltrans 2019k).

Wildwood Wash (Feature 2) originates east of the Project and extends west through the JSA (Figure 2.20-2). Within the JSA, Wildwood Wash is best characterized as a concrete-lined, unvegetated wash that typically only experiences water flows following a rain event. The portion of the wash within the JSA consists of a concrete box culvert under I-10 and a concrete and riprap-lined channel and constructed check-dam structure with accumulated sediment in the channel bottom. Vegetation is regularly cleared from Wildwood Wash east of the JSA for flood control purposes. At the time of the field survey, the segment of Wildwood Wash surveyed was completely unvegetated. The disturbed upper banks of Wildwood Wash support vegetation, including castor bean, California buckwheat, and shortpod mustard (*Hirschfeldia incana*). A photograph of Wildwood Wash upstream of the JSA is included in the JD (Caltrans 2019k).

Proposed Non-Jurisdictional Features

Three ditches constructed in uplands were also identified within the JSA. These ditches are all earthen, unvegetated swales that convey freeway runoff. Based on their characteristics, ditches constructed in uplands have been determined to be non-jurisdictional features because they do not carry a relatively permanent flow, are excavated wholly in uplands, and receive sheet flow from I-10 or its frontage roads (Figure 2.20-2).[1]

One of the proposed non-jurisdictional ditches that is tributary to Yucaipa Creek originates as a drop drain in the shoulder of EB I-10 at the Wildwood rest area located west of the Wildwood Canyon Road off-ramp (Figure 2.19-2). Flows are conveyed underground, under the EB exit, for the rest area into a culvert just west of the Wildwood rest area. Flows are then conveyed in an earthen swale west along the shoulder of I-10 for approximately 950 feet and discharged into Yucaipa Creek just outside

[1] USACE, RWQCB, and CDFW have the ultimate authority of determining whether or not permits would be required for project impacts on these features.

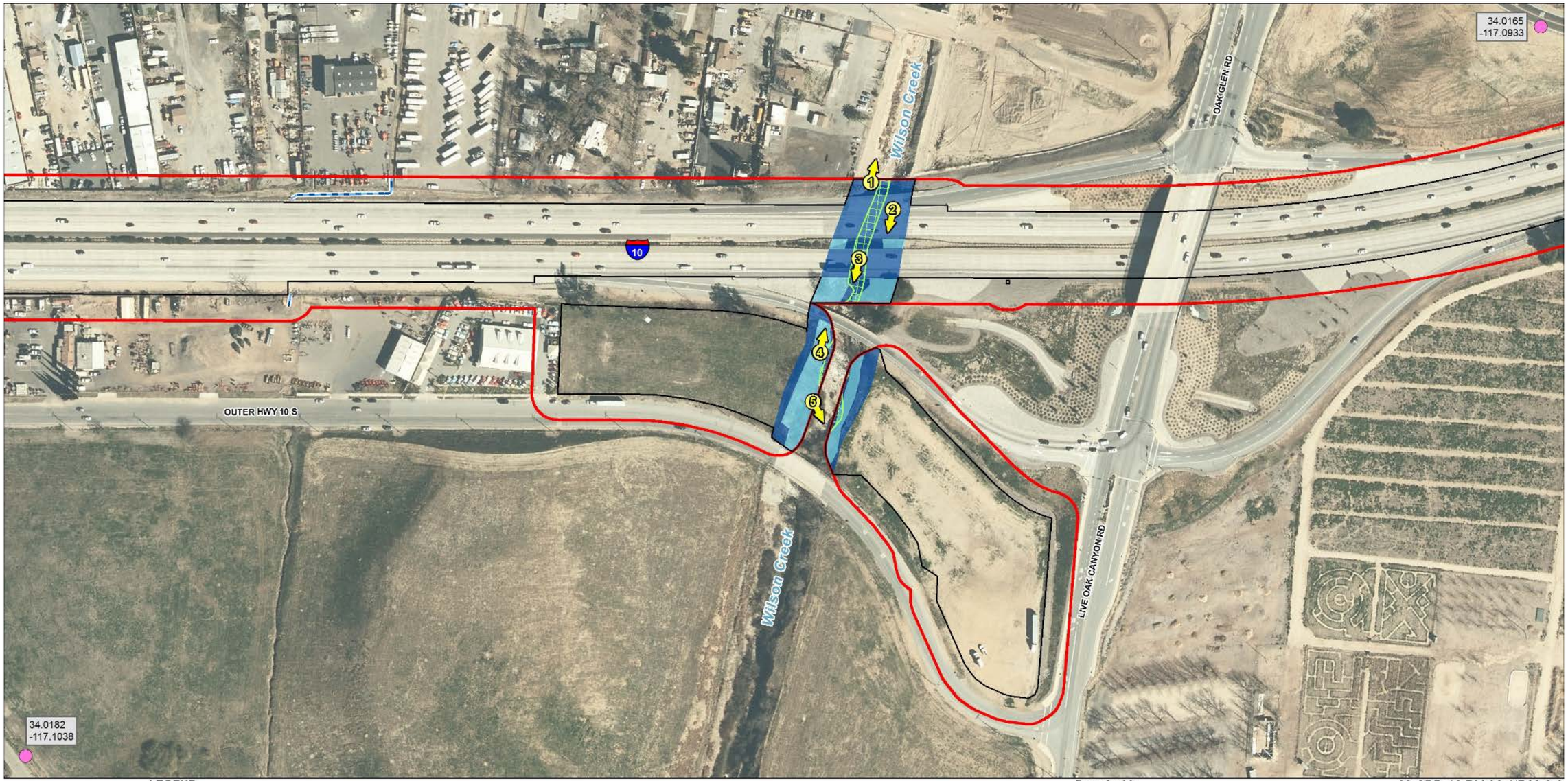
of the JSA. This feature is an unvegetated swale that appears to convey flows only from I-10. The OHWM, determined based on the presence of shelving and debris, varies from 0.50 to 1 foot.

A second proposed non-jurisdictional ditch, an earthen swale that is tributary to Wildwood Wash, originates in the earthen shoulder of WB I-10 and conveys freeway runoff to the northwest for approximately 1,200 feet, where it discharges into Wildwood Wash (Figure 2.20-2). This feature is an unvegetated swale that appears to convey flows only from I-10. The OHWM is 0.50 foot and was determined based on the presence of shelving.



Figure 2.20-2. Jurisdictional Features in the Jurisdictional Study Area (Sheet 1 of 6)

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LEGEND

- Jurisdictional Study Area (60.47 acres)
- 50ft Buffer (102.77 acres)
- Map Reference Point
- Photo Point

CDFW Jurisdiction (1.39 acre)
- CDFW Riparian (0.45 acre)
- CDFW Unvegetated Streambed (0.94 acre)

USACE Jurisdiction (0.19 acre)
- USACE Jurisdiction (0.19 acre)

- Potential Jurisdictional Area (Outside JSA/Not Assessed)
- Non-Jurisdictional Ditch/Swale

0 Feet 200
1 inch = 200 feet

Page 2 of 6

Aerial: San Bernardino (2016)
Date Prepared: 04/03/2019
Map Prepared by HDR

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08-RIV-10 PM R0.0/R0.2
EA 1F7600

I-10 Eastbound TCL Improvement Project

Figure 2.20-2. Jurisdictional Features in the Jurisdictional Study Area (Sheet 2 of 6)

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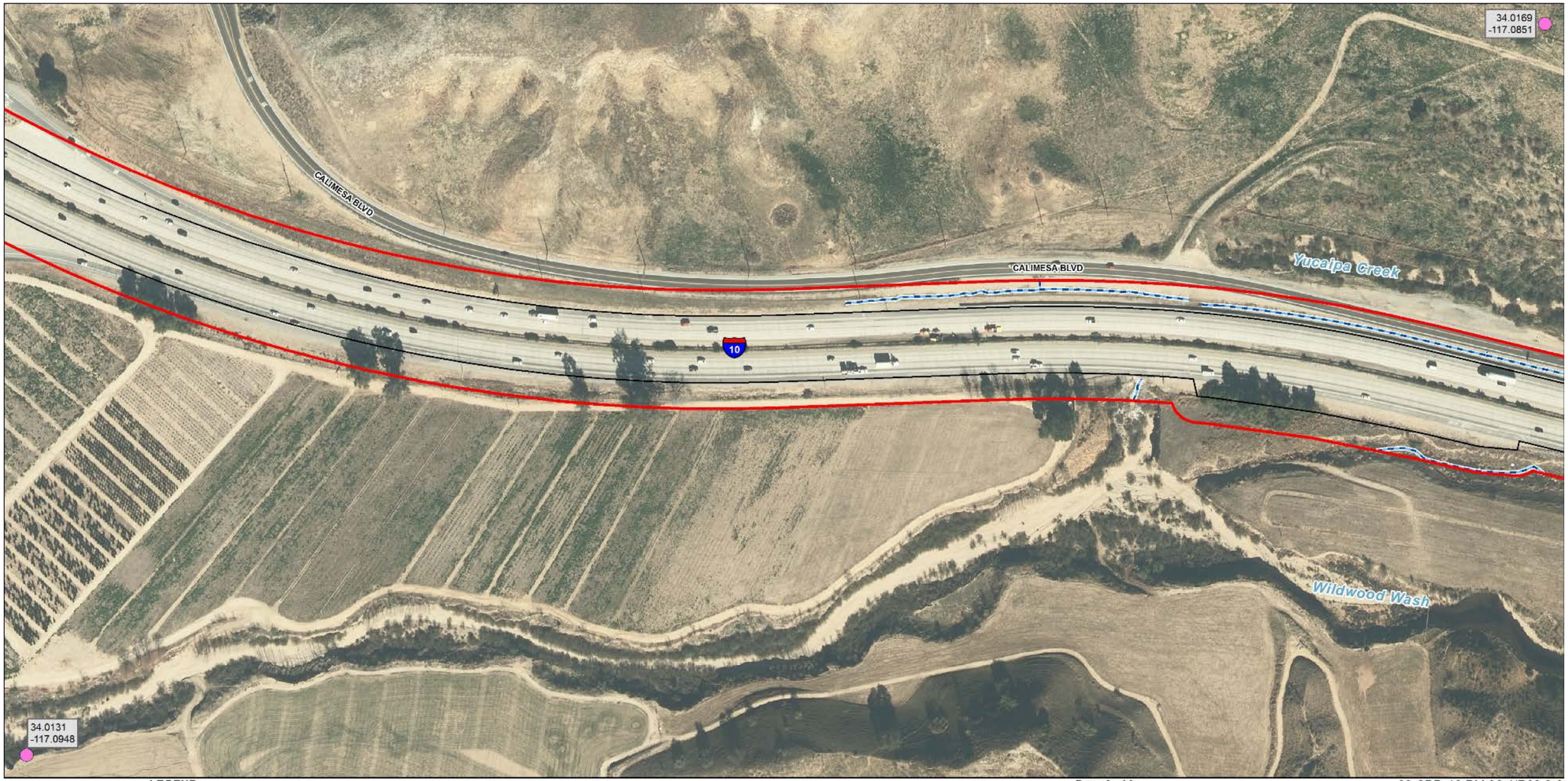
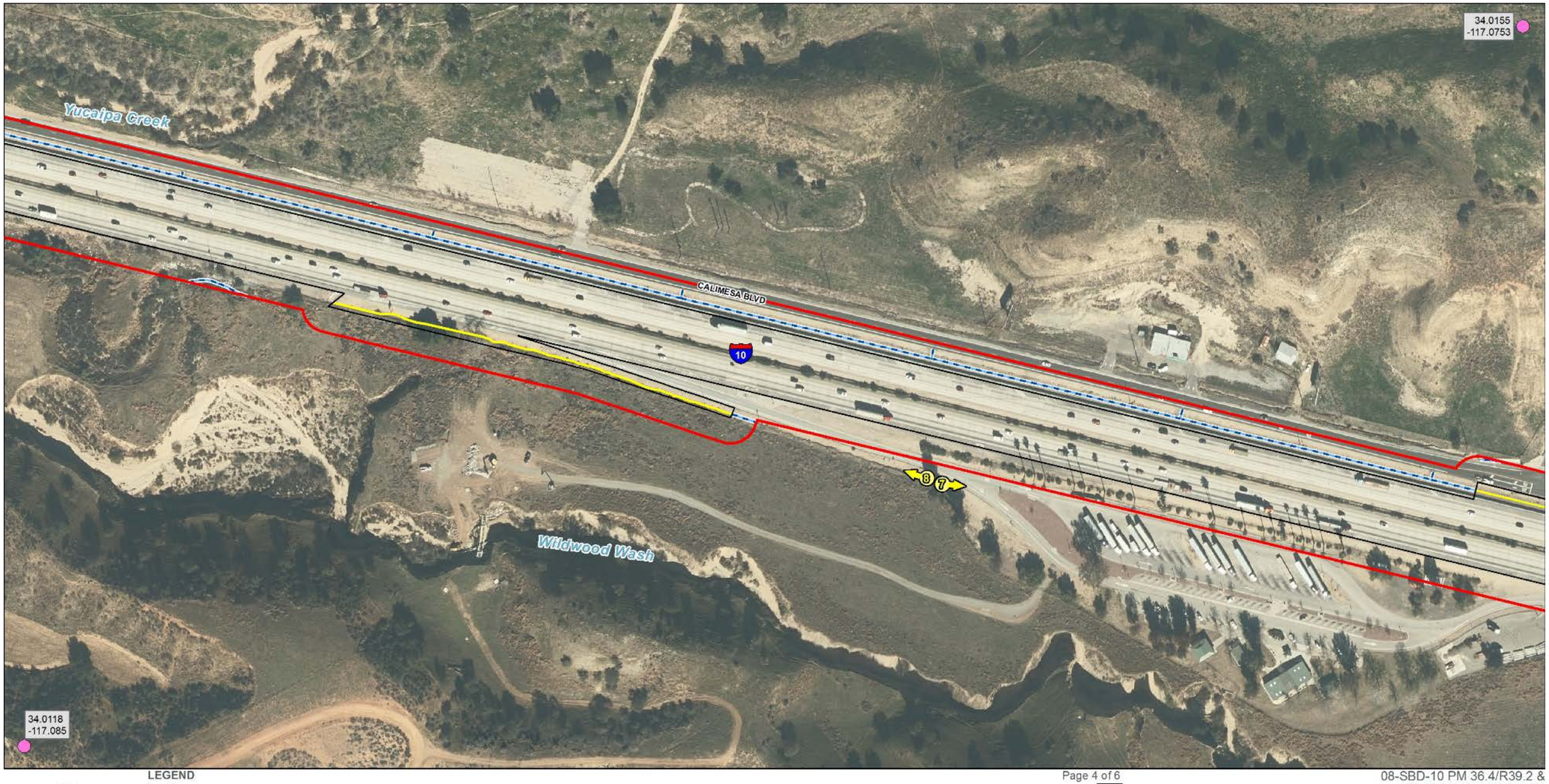


Figure 2.20-2. Jurisdictional Features in the Jurisdictional Study Area (Sheet 3 of 6)

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LEGEND

- Jurisdictional Study Area (60.47 acres)
- 50ft Buffer (102.77 acres)
- Map Reference Point
- Photo Point

CDFW Jurisdiction (1.39 acre)
- CDFW Riparian (0.45 acre)
- CDFW Unvegetated Streambed (0.94 acre)

USACE Jurisdiction (0.19 acre)
- USACE Jurisdiction (0.19 acre)

- Potential Jurisdictional Area (Outside JSA/Not Assessed)
- Non-Jurisdictional Ditch/Swale

0 Feet 200
1 inch = 200 feet

Page 4 of 6

Aerial: San Bernardino (2016)
Date Prepared: 04/03/2019
Map Prepared by HDR

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08-RIV-10 PM R0.0/R0.2
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I-10 Eastbound TCL Improvement Project

Figure 2.20-2. Jurisdictional Features in the Jurisdictional Study Area (Sheet 4 of 6)

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Figure 2.20-2. Jurisdictional Features in the Jurisdictional Study Area (Sheet 5 of 6)

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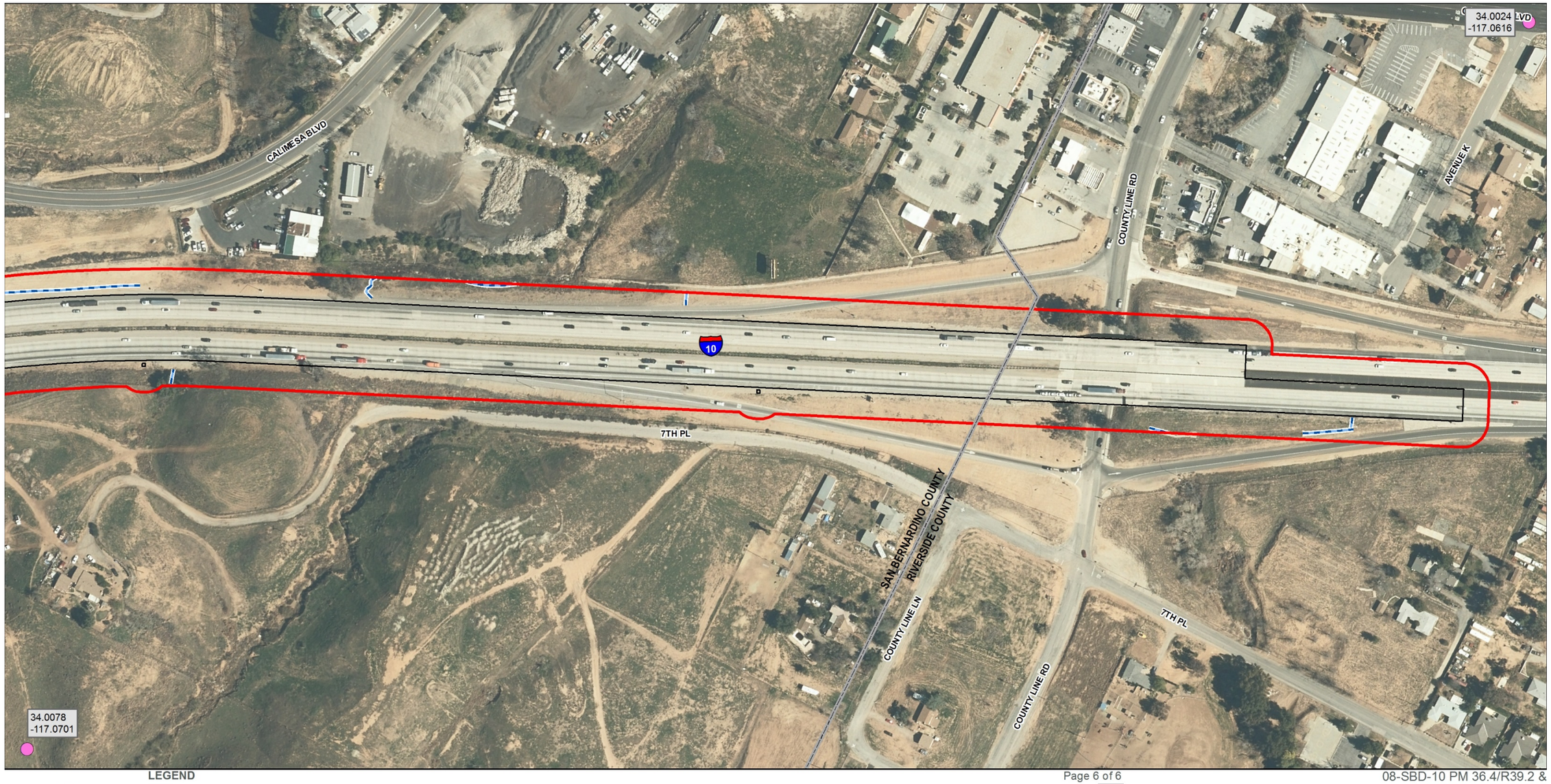


Figure 2.20-2. Jurisdictional Features in the Jurisdictional Study Area (Sheet 6 of 6)

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The third proposed non-jurisdictional ditch is an earthen swale located in the earthen shoulder of Calimesa Boulevard, north of the WB I-10 lanes (Figure 2.20-2). It originates approximately 500 feet west of Wildwood Wash and conveys flows west along Calimesa Boulevard, where it terminates in the earthen shoulder of Calimesa Boulevard outside of the JSA. It is not tributary to any features. The OHWM varies between 0.5- and 1-foot-wide and was determined based on the presence of channel incision.

USACE typically does not assert jurisdiction over non-tidal drainage and irrigation ditches that are excavated on dry land, drain adjacent upland areas, and do not convey relatively permanent flow. Review of historical aerials confirmed these characteristics apply to the three proposed non-jurisdictional features; therefore, it is expected that USACE would not assert jurisdiction over these drainages. These drainages do not appear to contribute substantially to the effects on the chemical, physical, and biological integrity of a traditional navigable water. Furthermore, many of these drainages connect into the storm drain system.

2.20.2.1 California Department of Fish and Wildlife Jurisdictional Areas

All of the features within the JSA that meet USACE criteria for waters of the U.S. are also subject to CDFW jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. CDFW jurisdiction also includes streambed banks and adjacent riparian areas extending beyond the limits of USACE jurisdiction. The extent of CDFW jurisdiction within the JSA is shown on Figure 2.20-2. The total acreage of CDFW jurisdiction within the JSA is 1.39 acre, of which 0.45 acre consists of disturbed riparian habitat.

2.20.3 Environmental Consequences

2.20.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) does not propose any construction or other disturbance in the BSA; therefore, no temporary effects on wetlands and other waters would occur.

Alternative 2 (Build Alternative)

United States Army Corps of Engineers Jurisdictional Areas

Alternative 2 (Build Alternative) would result in direct temporary impacts on non-wetland waters as a result of construction activities (e.g., vehicle access, construction work, and staging areas are needed for the construction of bridge piers in Wilson Creek). Potential temporary impacts on Wildwood Wash would occur as a result of placement of a new culvert outlet intended to channelize

existing freeway flows that currently spread over pavement east of Wildwood Wash and eventually into Wildwood Wash. The Project would result in temporary impacts on 0.07 acre of USACE jurisdictional waters (Figure 2.20-3; Table 2.20-1).

Temporary Project impacts on jurisdictional waters would be reduced to the fullest extent possible. As part of ongoing Project design, temporary Project limits near Wildwood Wash were refined to reduce direct Project impacts on Wildwood Wash. Project biologists also worked with the design engineers to identify access routes at Wilson Creek Bridge that would result in the least impact on jurisdictional waters. The access route chosen for Alternative 2 (Build Alternative) at Wilson Creek is located in the freeway median, which reduces the distance equipment would have to travel to reach work and staging areas located at the I-10 EB bridges over Wilson Creek. Temporary impacts on USACE jurisdictional waters would be restored to pre-Project contours.



Figure 2.20-3. Project Impacts on Jurisdictional Features (Sheet 1 of 6)

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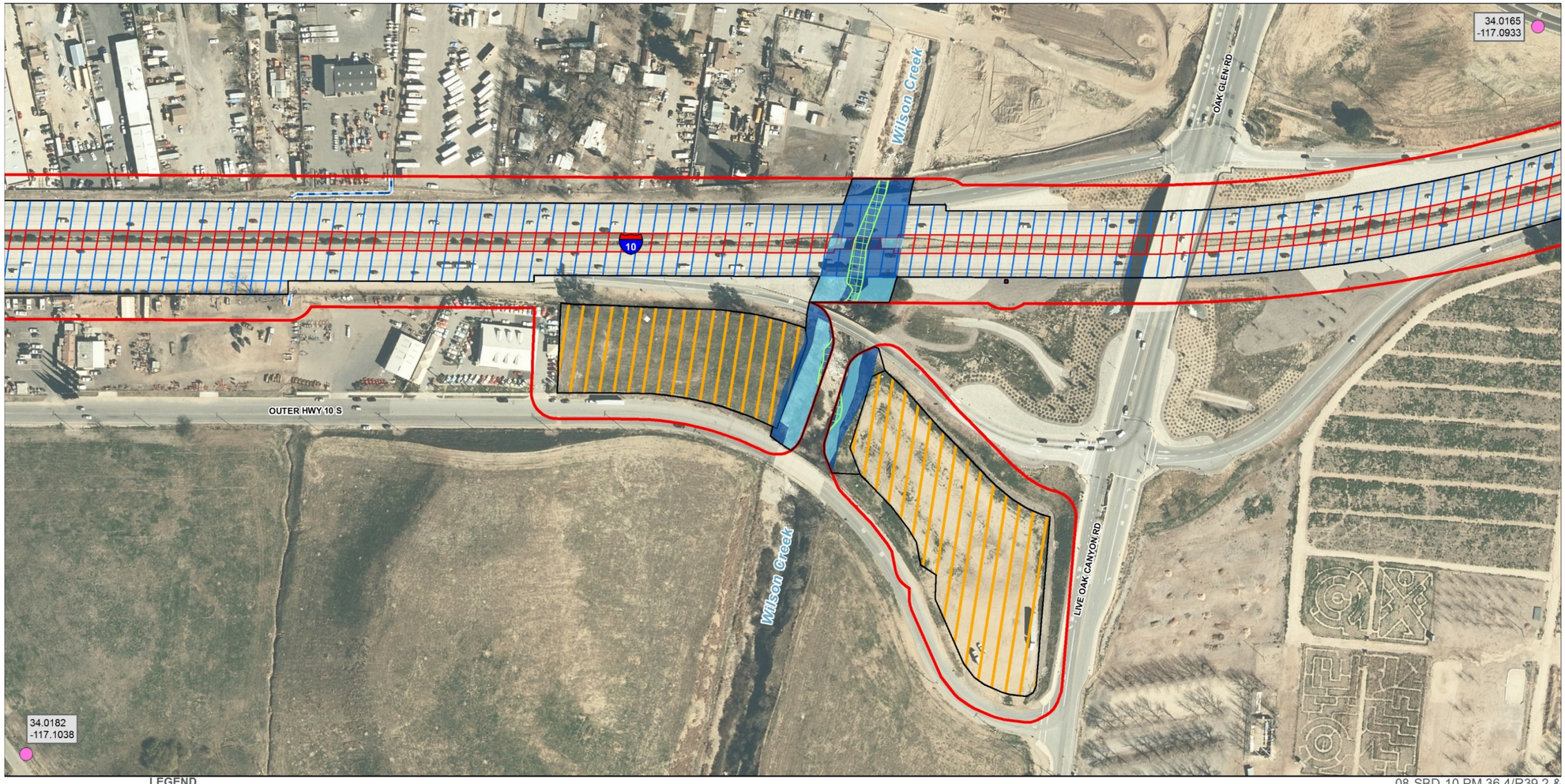
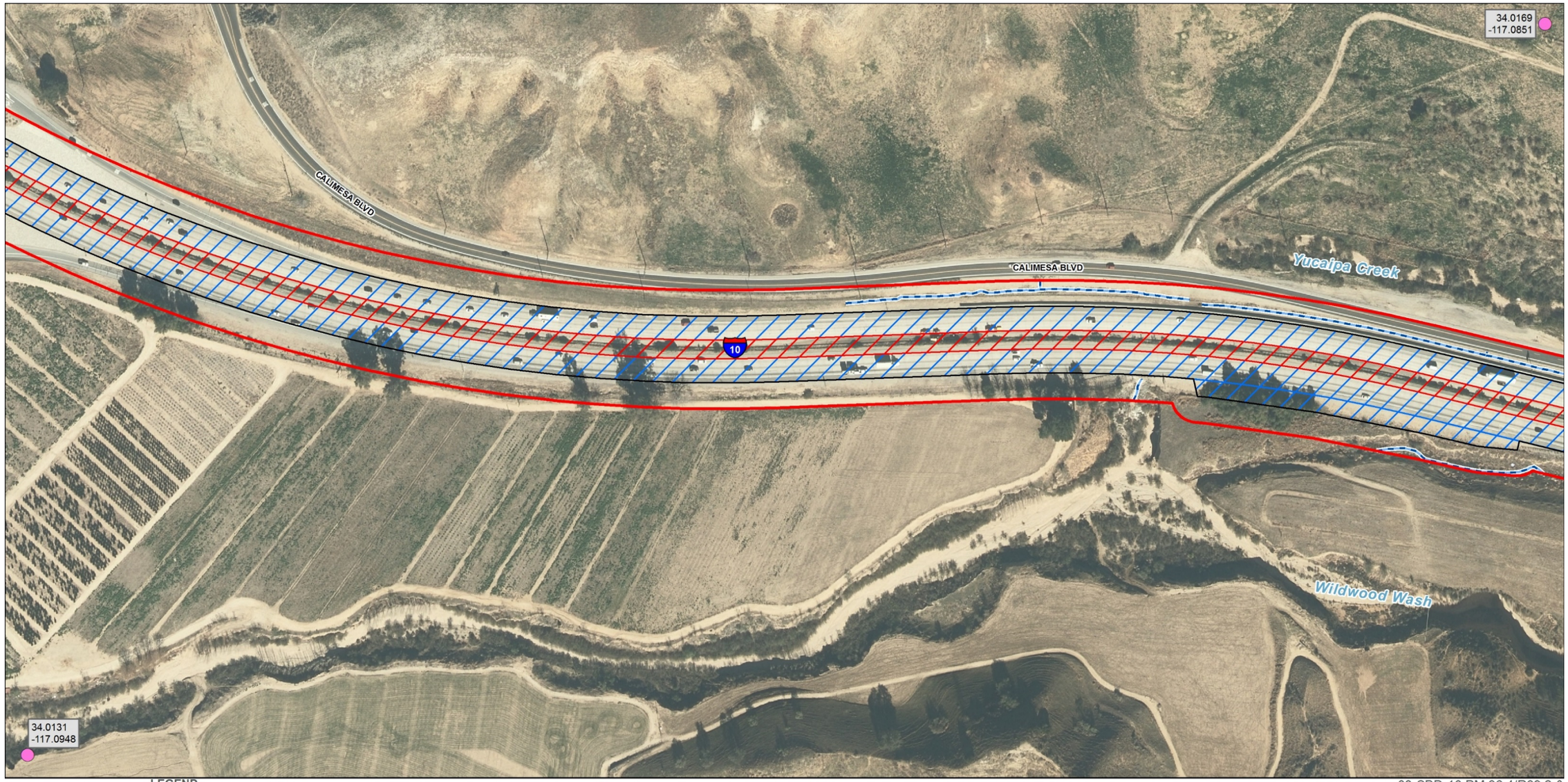


Figure 2.20-3. Project Impacts on Jurisdictional Features (Sheet 2 of 6)

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LEGEND

Jurisdictional Study Area (60.47 acres)
50ft Buffer (102.77 acres)
Map Reference Point

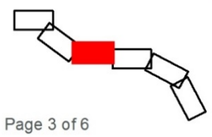
Aerial: San Bernardino (2016)
Date Prepared: 06/25/2019
Map Prepared by HDR

0 Feet 200
1 inch = 200 feet

Project Impacts (59.05 acres)
Permanent Impacts (12.24 acres)
Temporary Impacts (41.00 acres)
Temporary Construction Easement (0.49 acre)
Staging Area (5.32 acres)

CDFW Jurisdiction Impacts (0.49 acre)
CDFW Riparian (Permanent: 0.03 acre)
CDFW Unvegetated Streambed (Permanent: 0.05 acre; Temporary: 0.41 acre)
USACE Jurisdiction Impacts (0.08 acre)
USACE Jurisdiction (Permanent: 0.01 acre; Temporary: 0.07 acre)

Potential Jurisdictional Area (Outside JSA/Not Assessed)
Non-Jurisdictional Ditch/Swale



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I-10 Eastbound TCL Improvement Project

Figure 2.20-3. Project Impacts on Jurisdictional Features (Sheet 3 of 6)

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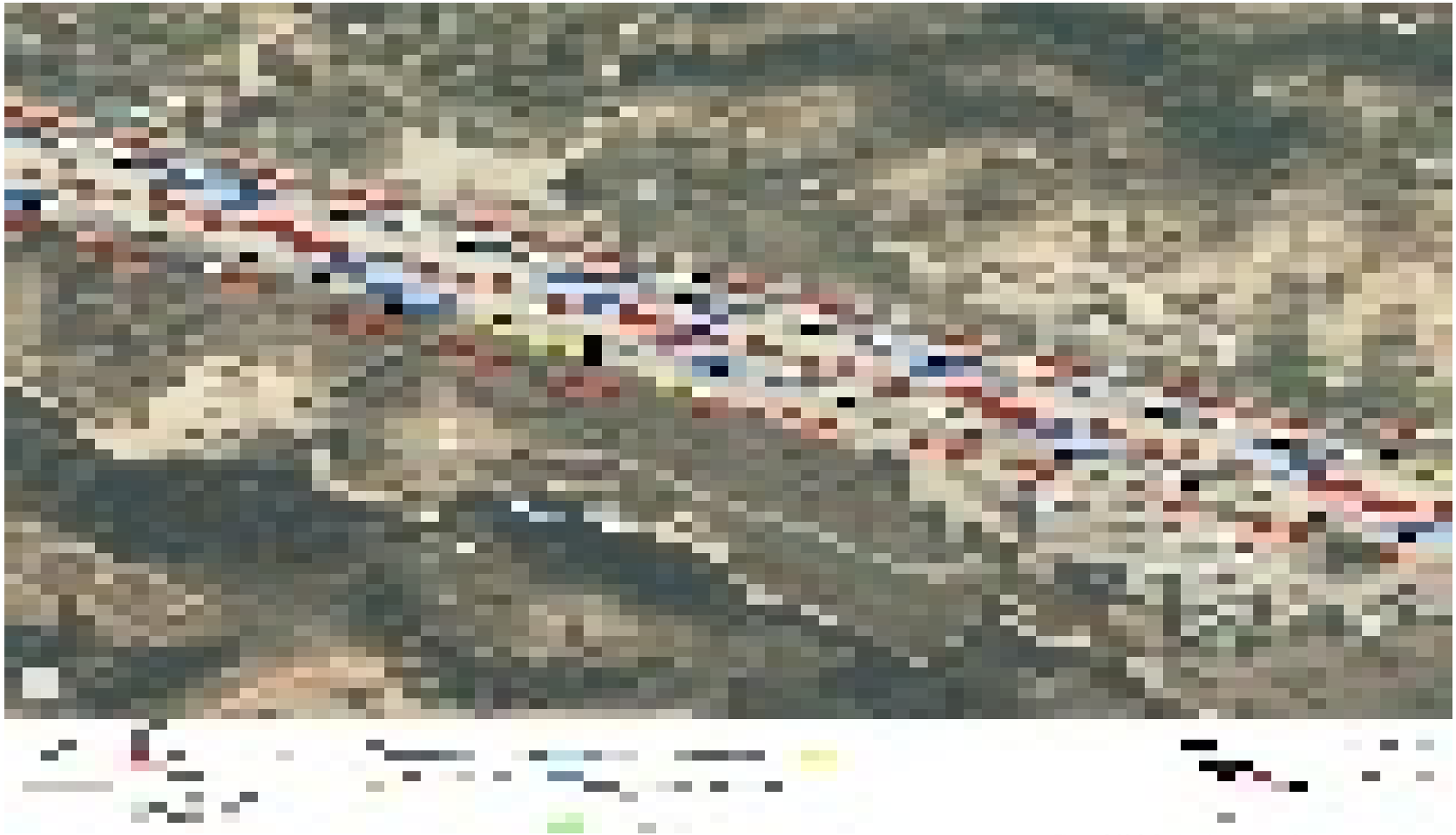
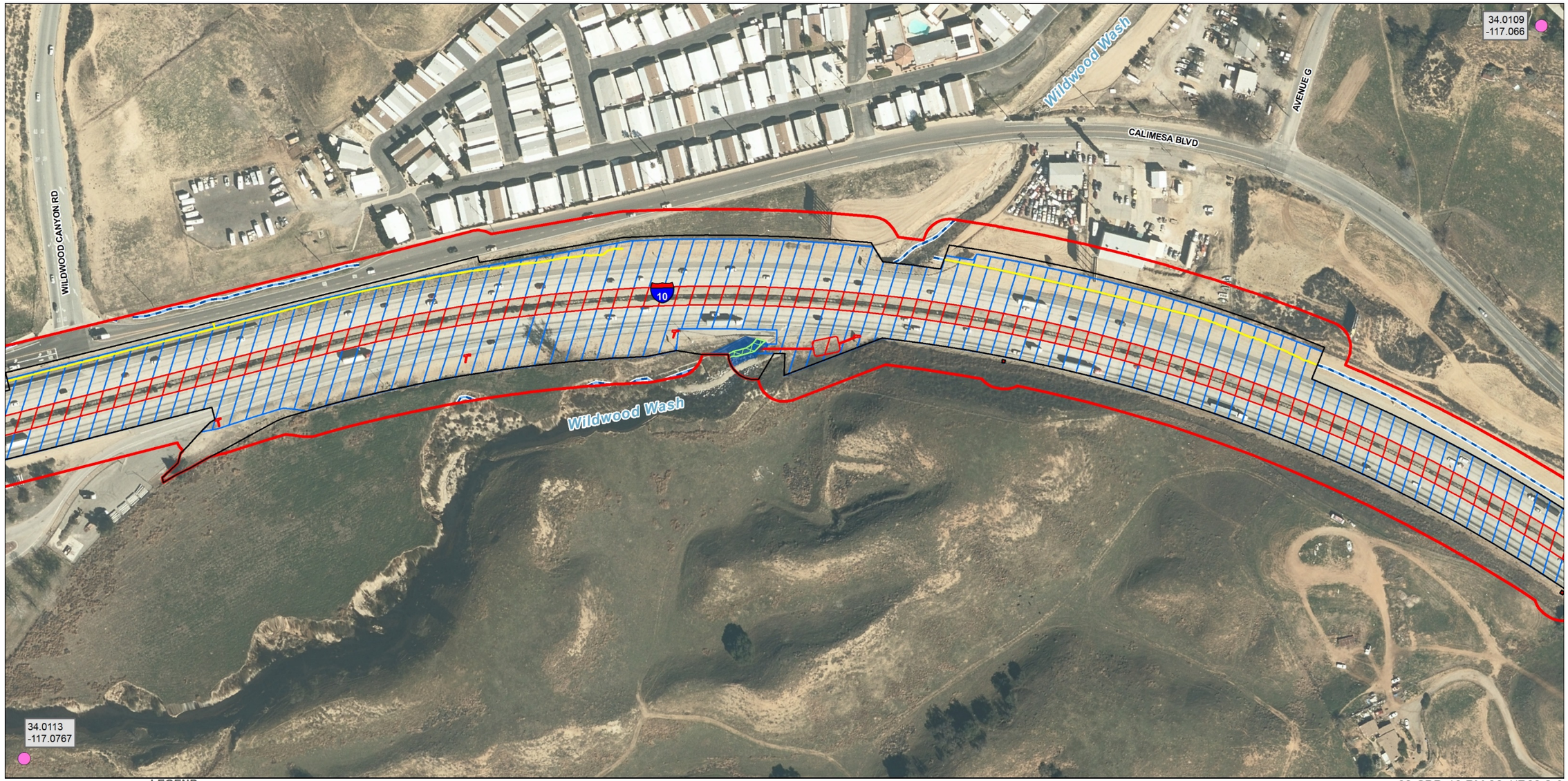


Figure 2.20-3. Project Impacts on Jurisdictional Features (Sheet 4 of 6)

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LEGEND

- Jurisdictional Study Area (60.47 acres)
- 50ft Buffer (102.80 acres)
- Map Reference Point

Aerial: San Bernardino (2016)
Date Prepared: 02/14/2020
Map Prepared by HDR

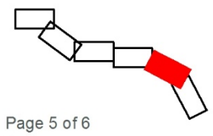
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1 inch = 200 feet

Project Impacts (59.05 acres)
- Permanent Impacts (12.24 acres)
- Temporary Impacts (41.00 acres)
- Staging Area (5.32 acres)

CDFW Jurisdiction Impacts (0.49 acre)
- CDFW Riparian (Permanent: 0.03 acre)
- CDFW Unvegetated Streambed (Permanent: 0.05 acre; Temporary: 0.41 acre)

USACE Jurisdiction Impacts (0.08 acre)
- USACE Jurisdiction (Permanent: 0.01 acre; Temporary: 0.07 acre)

- Potential Jurisdictional Area (Outside JSA/Not Assessed)
- Non-Jurisdictional Ditch/Swale



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08-RIV-10 PM R0.0/R0.2
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I-10 Eastbound TCL Improvement Project

Figure 2.20-3. Project Impacts on Jurisdictional Features (Sheet 5 of 6)

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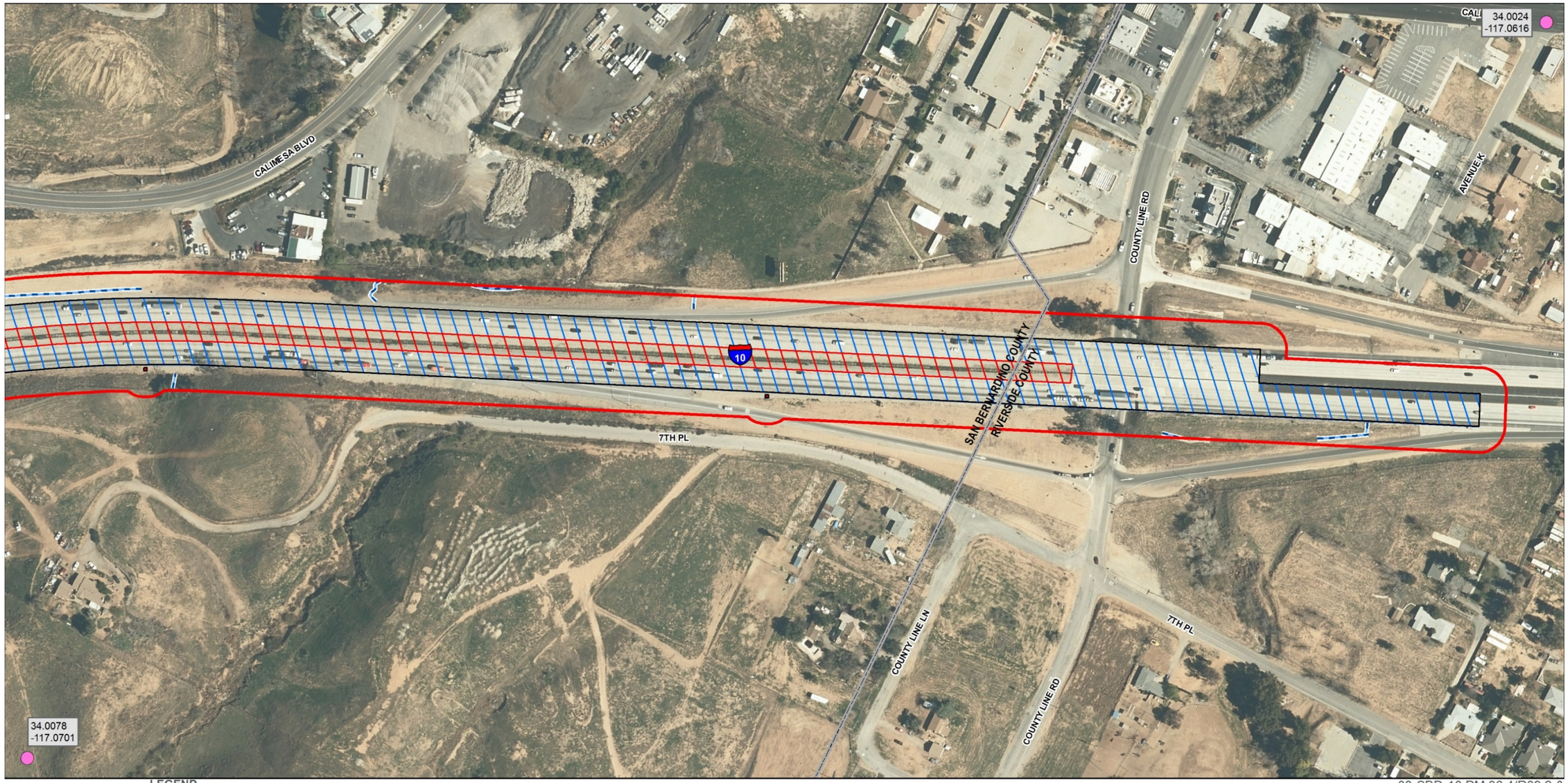


Figure 2.19-3. Project Impacts on Jurisdictional Features (Sheet 6 of 6)

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California Department of Fish and Wildlife Jurisdictional Areas

Alternative 2 (Build Alternative) would result in direct temporary impacts on CDFW jurisdictional areas, including Disturbed Riparian Scrub and Unvegetated Streambed, as a result of construction vehicle access and work and staging areas needed for the construction of bridge piers in Wilson Creek. Due to the required construction activities, Alternative 2 (Build Alternative) would result in temporary impacts on 0.41 acre of CDFW unvegetated streambed, as detailed in Table 2.20-1 and shown on Figure 2.19-3. The CDFW-regulated disturbed riparian habitat that would be impacted consists of a relatively small isolated patch located immediately adjacent to I-10 and is dominated by non-native, invasive plant species. However, temporary impacts on unvegetated streambed would be restored to pre-Project contours, and compensatory mitigation would be required for permanent loss of Unvegetated Streambed and Disturbed Riparian habitat. No substantial adverse effects on wetland and other waters are anticipated to occur under Alternative 2 (Build Alternative).

2.20.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not involve construction activities; therefore, no permanent effects on wetlands and other waters would occur.

Alternative 2 (Build Alternative)

United States Army Corps of Engineers and California Department of Fish and Wildlife Jurisdictional Areas

Potential impacts on Wilson Creek would occur as a result of bridge pier placement to support the deck extension. The construction of the bridge pier in Wilson Creek would result in the permanent loss of 0.01 acre of non-wetland USACE jurisdictional waters, 0.05 acre of CDFW unvegetated streambed, and 0.03 acre of CDFW riparian vegetation (Figure 2.20-3; Table 2.20-1).

Actual impacts on waters of the U.S. are anticipated to consist only of bridge support structure extension at Wilson Creek, if necessary. Loss of waters of the U.S. would be less than 0.10 acre and would not include wetlands. Therefore, these effects would not be considered substantial, and no compensatory mitigation is proposed. As noted above, the CDFW-regulated disturbed riparian habitat that would be impacted consists of a relatively small isolated patch located immediately adjacent to I-10 and is dominated by non-native, invasive plant species. Based on the low function of this habitat, a compensatory mitigation ratio of 1:1 for permanent loss of CDFW jurisdiction is proposed. This proposed compensatory mitigation would also mitigate for Project impacts on waters regulated by RWQCB.

Table 2.20-1. Project Impacts on Potential United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife Jurisdictional Areas

	USACE/RWQCB Jurisdiction		CDFW Jurisdiction			
	Temporary Impacts	Permanent Impacts	Temporary Impacts		Permanent Impacts	
Feature Name	Non-wetland Waters of the U.S.	Non-wetland Waters of the U.S.	Unvegetated Streambed	Riparian Vegetation	Unvegetated Streambed	Riparian Vegetation
Wilson Creek	0.07	0.01	0.40	—	0.05	0.03
Wildwood Wash	—	—	0.01	—	—	—
Total	**0.07**	**0.01**	**0.41**	**—**	**0.05**	**0.03**

Notes:

CDFW=California Department of Fish and Wildlife; RWQCB=Regional Water Quality Control Board; USACE=U.S. Army Corps of Engineers; U.S.=United States

2.20.3.3 Permits Required

Coverage under USACE Nationwide Permit 14 for Linear Transportation Projects would likely be appropriate for the Project because it is expected to permanently impact less than 0.50 acre of waters of the U.S. Since the Project would result in permanent impacts on less than 0.10 acre of waters of the U.S., the Project could qualify for coverage under Nationwide Permit 14 without requiring preparation of a preconstruction notification form. The Project proponent would comply with all applicable general conditions associated with Nationwide Permit 14.

A SAN from CDFW and a Section 401 Water Quality Certification from RWQCB are also expected to be required for the Project.

Prior to construction, SBCTA would submit a certification of water quality or waiver from the Santa Ana RWQCB, pursuant to Section 401 of the CWA, and would obtain an SAN from CDFW.

2.20.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of Measures NC-1 through NC-4, as described in Section 2.19, Natural Communities, will protect off-site waters from inadvertent impacts during construction. Compliance with the General Storm Water Construction Permit will protect waters from indirect water quality effects.

In addition to Measures NC-1 through NC-4, the following measure will also be implemented to reduce Project impacts on wetlands and other waters within and/or adjacent to Project work areas. Measures will be implemented under SBCTA and Caltrans oversight. Any changes will require SBCTA and Caltrans approvals.

WET-1 The SBCTA Resident Engineer will require the contractor to restore areas of temporary impacts on jurisdictional areas to pre-Project contours. The permanent loss of CDFW-regulated disturbed riparian habitat will be mitigated at a 1:1 ratio through participation in an approved in-lieu fee program, mitigation bank, or restoration or enhancement of riparian habitat in the same watershed as the Project. The appropriate permit applications will be submitted to state and federal regulatory agencies, including USACE, CDFW, and RWQCB. The permits issued by these agencies will finalize the mitigation requirements for impacts on jurisdictional areas.

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2.21 Plant Species

2.21.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 2.23 in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

2.21.2 Affected Environment

This section discusses special-status plant species with the potential to occur within the BSA and summarizes the results of research and fieldwork that have been conducted to date for the Project in the NES(MI) (Caltrans 2019j). A discussion of natural communities mapped within the BSA is included in Section 2.19, Natural Communities.

A list of special-status plant species and habitats with the potential to occur within the BSA was prepared for the NES(MI) using information provided by the CDFW’s CNDDB Rarefind program (CDFW 2019) and the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2019). Searches of these databases were conducted for the nine USGS quadrangles surrounding the BSA (Yucaipa, Harrison Mountain, Keller Peak, Big Bear Lake, Redlands, Forest Falls, Sunnymead, Beaumont, and El Casco, California) prior to conducting the field survey. An official USFWS species

list was obtained from the Information for Planning and Conservation Environmental Conservation Online System on June 13, 2019 (USFWS 2019).

Special-status plants include those listed by USFWS as threatened or endangered or candidates for listing by USFWS and CDFW, as well as those considered sensitive by CNPS (California Rare Plant Rank [CRPR] Lists 1B, 2, and 3). The literature review indicated known occurrences of 41 special-status plant species within the 9 USGS 7.5-minute quadrangles surrounding the BSA. Eight of these special-status plant species are federally and/or state-listed endangered, threatened, or candidate species. The potential for occurrence of threatened and endangered species is discussed in more detail in Section 2.23, Threatened and Endangered Species.

Thirty-three non-listed special-status plant species have been recorded within the vicinity of the BSA. Of these, those with the potential to occur in the BSA include mesa horkelia (*Horkelia cuneata* var. *puberula*) and Parry's spineflower (*Chorizanthe parryi*). Both of these species have a low potential to occur in Disturbed Buckwheat Scrub habitat within the BSA. No special-status plants were observed within the BSA during the field visit in November 2017; however, the field visit was conducted outside of the blooming period for special-status plant species with the potential to occur in the BSA. Additional information on these species, including status, habitat requirements, and potential for occurrence, is summarized in Table 2.21-1.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Bolander's horkelia *Horkelia bolanderi*	Federal: — State: — CRPR: 1B.2 MSHCP : NC[1]	Perennial herb. Occurs in chaparral, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland from 450 to 1,100 meters (1,475 to 3,610 feet) above MSL. Blooms May – August.	Absent	Not likely to occur. No suitable habitat in BSA.
California satintail *Imperata brevifolia*	Federal: — State: — CRPR: 2B.1 MSHCP: NC	Perennial grass. Occurs in desert seeps, springs, moist canyons, canals, alkaline sinks, and similar wet areas below 500 meters (1,600 feet) above MSL. Blooms September – May.	Absent	Not likely to occur. No suitable wet areas in BSA.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: — State: — CRPR: 1B.1 MSHCP: NC	Annual herb. Occurs in sandy soils in chaparral, coastal scrub, and desert dunes from 75 to 1,600 meters (246 to 5,249 feet) above MSL. Blooms February – May.	Absent	Not likely to occur. BSA does not support suitable combination of habitat and soils for this species.
Coachella Valley milk-vetch *Astragalus lentiginosus* var. *coachellae*	Federal: FE State: — CRPR: 1B.2 MSHCP: NC	Annual or perennial herb. Occurs in sandy areas, typically in coarse sands in active sand fields, adjacent to dunes, along roadsides in dune areas, or along the margins of sandy washes, in Sonoran Desert scrub from 60 to 655 meters (200 to 2,150 feet) above MSL. Known only from Riverside County in the Coachella Valley between Cabazon and Indio and in the Chuckwalla Valley northeast of Desert Center. Blooms February – May.	Absent	Not likely to occur. BSA is outside of species' known geographic range.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: — State: — CRPR: 1B.1 MSHCP: S	Annual herb. Occurs in coastal salt marshes and swamps, playas, and vernal pools from 1 to 1,220 meters (3 to 4,002 feet) above MSL. Blooms February – June.	Absent	Not likely to occur. No suitable habitat in BSA.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: — State: — CRPR: 1B.2 MSHCP: S	Annual herb. Occurs in alkaline soils in scrub and herbaceous communities from 10 to 460 meters (30 to 1,500 feet) above MSL. Blooms April – October.	Absent	Not likely to occur. BSA is above known elevation range for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Hall's monardella *Monardella macrantha* ssp. *hallii*	Federal: — State: — CRPR: 1B.3 MSHCP: C	Perennial herb. Occurs on dry slopes and ridges in openings in chaparral, woodland, and forest from 695 to 2,195 meters (2,280 to 7,200 feet) above MSL. In western Riverside County, known only from higher elevations in the Santa Ana and Aqua Tibia Mountains (Roberts et al. 2004). Blooms June – August.	Absent	Not likely to occur. No suitable habitat in the BSA.
Jaeger's milk-vetch *Astragalus pachypus* var. *jaegeri*	Federal: — State: — CRPR: 1B.1 MSHCP: C	Perennial shrub. Occurs in sandy or rocky sites in chaparral, coastal sage scrub, grassland, and oak woodland; known from southern Riverside County, from 365 to 915 meters (1,200 to 3,000 feet) above MSL. Blooms December – June.	Absent	Not likely to occur. BSA is outside of species' known geographic range. Nearest documented occurrence is an unverified observation from 1920 and is over 10 miles southeast of the BSA.
Lemon lily *Lilium parryi*	Federal: — State: — CRPR: 1B.2 MSHCP: CR	Perennial bulbiferous herb. Occurs in wet areas in meadows and riparian and montane coniferous forests from 1,220 to 2,790 meters (4,000 to 9,200 feet) above MSL. Blooms July – August.	Absent	Not likely to occur. BSA is below known elevation range for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Marsh sandwort *Arenaria paludicola*	Federal: FE State: SE CRPR: 1B.1 MSHCP: NC	Perennial stoloniferous herb. Occurs in sandy openings in marshes and freshwater or brackish swamps from 3 to 170 meters (10 to 558 feet) above MSL. Blooms May – August.	Absent	Not likely to occur. BSA is above known elevation range for this species.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: — State: — CRPR: 1B.1 MSHCP: NC	Perennial herb. Occurs in sandy or gravelly soils in chaparral, cismontane woodland, and coastal scrub from 70 to 810 meters (230 to 2,657 feet) above MSL. Blooms February – September.	Present	Low potential to occur. Low quality suitable habitat on slopes adjacent to I-10 that support Disturbed Buckwheat Scrub. Soils may be too compacted for this species.
Mojave tarplant *Deinandra mohavensis*	Federal: — State: SE CRPR: 1B.3 MSHCP: CR	Annual herb. Occurs in low sandbars in riverbeds, mostly in riparian areas or in ephemeral grassy areas, in riparian scrub and mesic chaparral from 640 to 1,600 meters (2,100 to 5,200 feet) above MSL. Known from the San Jacinto Mountains in Riverside County. Believed extirpated from San Bernardino County. Blooms July – October.	Absent	Not likely to occur. BSA is outside of this species' known geographic range.
Mud nama *Nama stenocarpa*	Federal: — State: — CRPR: 2B.2 MSHCP: S	Annual or perennial herb. Occurs on lake shores, riverbanks, and similar intermittently wet areas from 5 to 500 meters (20 to 1,600 feet) above MSL. Blooms January – July.	Absent	Not likely to occur. BSA is above known elevation range for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Narrow-leaf sandpaper-plant *Petalonyx linearis*	Federal: — State: — CRPR: 1B.3 MSHCP: NC	Perennial herb. Occurs in mesic areas, streamsides, and sometimes calcareous soils in lower and upper montane coniferous forests, meadows, and seeps from 1,250 to 2,440 meters (4,100 to 8,000 feet) above MSL. Blooms August – September.	Absent	Not likely to occur. BSA is below known elevation range for this species.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CRPR: 1B.1 MSHCP: S	Perennial evergreen shrub. Occurs in sandy and gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian habitats from 70 to 825 meters (230 to 2,707 feet) above MSL. Blooms February – June.	Present	Low potential to occur. Marginally suitable habitat in Disturbed Buckwheat Scrub adjacent to I-10. Soils may be too compacted to support this species.
Palmer's mariposa lily *Calochortus palmeri* var. *palmeri*	Federal: — State: — CRPR: 1B.2 MSHCP: NC	Perennial bulbiferous herb. Occurs in mesic soils in chaparral, lower montane coniferous forests, meadows and seeps from 1,000 to 2,390 meters (3,280 to 7,839 feet) above MSL. Blooms April–July.	Absent	Not likely to occur. BSA is below known elevation range for this species.
Parish's alumroot *Heuchera parishii*	Federal: — State: — CRPR: 1B.3 MSHCP: NC	Perennial herb. Occurs in rocky areas in coniferous forests in Riverside and San Bernardino counties from 1,500 to 3,800 meters (4,900 to 12,500 feet) above MSL. Blooms June – August.	Absent	Not likely to occur. BSA is below known elevation range for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Parish's checkerbloom *Sidalcea hickmanii* ssp. *parishii*	Federal: — State: — CRPR: 1B.2 MSHCP: NC	Perennial herb. Occurs in burned or cleared areas on rocky slopes, and along roads in chaparral, cismontane woodland, and lower montane coniferous forest from 1,000 to 2,135 meters (3,300 to 7,000 feet) above MSL. Blooms May – June.	Absent	Not Expected. BSA is below known elevation range for this species.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: — State: — CRPR: 1B.1 MSHCP: C	Annual herb. Occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats from 275 to 1,220 meters (902 to 4,002 feet) above MSL. Blooms April – June.	Present	Low potential to occur. Marginally suitable habitat in Disturbed Buckwheat Scrub adjacent to I-10. Soils may be too compacted to support this species.
Peruvian dodder *Cuscuta obtusiflora* var. *glandulosa*	Federal: — State: — CRPR: 2B.2 MSHCP: NC	Annual vine. Occurs in freshwater marshes and swamps from 15 to 280 meters (50 to 919 feet) above MSL. Blooms July - October.	Absent	Not likely to occur as there is no suitable habitat in the BSA. BSA is above known elevation range for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Rock-loving oxytrope *Oxytropis oreophila* var. *oreophila*	Federal: — State: — CRPR: 2B.3 MSHCP: NC	Perennial herb. Occurs on gravelly or rocky soils in alpine boulder and rock fields, and in subalpine coniferous forest from 3,350 to 3,950 meters (11,000 to 13,000 feet) above MSL. Known in California only from San Bernardino County. Blooms June – September.	Absent	Not likely to occur. BSA is below known elevation range for this species.
Rock sandwort *Arenaria lanuginosa* ssp. *saxosa*	Federal: — State: — CRPR: 2B.3 MSHCP: NC	Perennial herb. Occurs in mesic, sandy soils in upper montane and subalpine coniferous forest from 1,800 to 2,600 meters (5,900 to 8,500 feet) above MSL. Known only from San Bernardino County. Blooms July – August.	Absent	Not likely to occur. BSA is below known elevation range for this species.
Round-leaved filaree *California macrophylla*	Federal: — State: — CRPR: 1B.2 MSHCP: S	Annual herb. Occurs in clay soils in cismontane woodland and valley and foothill grassland from 15 to 1,200 meters (15 to 3,937 feet) above MSL. Blooms March – May.	Absent	Not likely to occur. BSA does not support suitable combination of soils and habitat for this species.
Salt marsh bird's-beak *Choloropyron maritimum* ssp. *maritimum*	Federal: FE State: SE CRPR: 1B.2 MSHCP: NC	Annual herb (hemiparasitic). Occurs in coastal dunes and coastal salt marshes and swamps below 30 meters (below 98 feet) above MSL. Blooms May – October.	Absent	Not likely to occur. BSA is above known elevation range for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Salt spring checkerbloom *Sidalcea neomexicana*	Federal: — State: — CRPR: 2B.2 MSHCP: NC	Perennial herb. Occurs in alkaline, mesic soils in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas from 15 to 1,530 meters (49 to 5,019 feet) above MSL. Blooms March – June.	Absent	Not likely to occur. No suitable combination of soils and habitat in BSA.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: — State: — CRPR: 1B.2 MSHCP: NC	Perennial rhizomatous herb. Occurs near ditches, streams, and springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland from 2 to 2,040 meters (6 to 6,692 feet) above MSL. Blooms July – November.	Absent	Not likely to occur. No suitable combination of soils and habitat in BSA.
San Bernardino gilia *Gilia leptantha* ssp. *leptantha*	Federal: — State: — CRPR: 1B.3 MSHCP: NC	Annual herb. Occurs in sandy or gravelly soils in lower montane coniferous forest, sandy or gravelly soils of the San Bernardino Mountains from 1,500 to 2,350 meters (4,900 to 7,700 feet) above MSL. Blooms June – August.	Absent	Not likely to occur. BSA is below known elevation range for this species.
San Bernardino grass-of-Parnassus *Parnassia cirrata* var. *cirrata*	Federal: — State: — CRPR: 1B.3 MSHCP: NC	Perennial herb. Occurs on mesic sites in lower and upper montane coniferous forest from 2,135 to 3,000 meters (7,000 to 9,800 feet) above MSL. Known in California only from the San Gabriel and San Bernardino Mountains. Blooms August – September.	Absent	Not likely to occur. BSA is below known elevation range for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
San Bernardino Mountains owl's-clover *Castilleja lasiorhyncha*	Federal: — State: — CRPR: 1B.2 MSHCP: NC	Annual herb. Occurs in mesic to drying soils in open areas of stream and meadow margins or margins of vernally wet areas in meadows, chaparral, pebble plains, and upper montane coniferous forest from 1,300 to 2,400 meters (4,300 to 7,900 feet) above MSL. Known from San Bernardino County and historically from Riverside County. Blooms June – August.	Absent	Not likely to occur. BSA is below known elevation range for this species.
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: — CRPR: 1B.1 MSHCP: S	Annual herb. Occurs in alkaline flats in playas, chenopod scrub, valley and foothill grasslands, and vernal pools from 365 to 520 meters (1,200 to 1,700 feet) above MSL. Endemic to the San Jacinto River Valley area of western Riverside County. Blooms April – August.	Absent	Not likely to occur. BSA is above known elevation range for this species.
Santa Ana River woollystar *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CRPR: 1B.1 MSHCP: C	Perennial herb. Occurs in sandy or gravelly soils in chaparral and coastal scrub from 91 to 610 meters (298 to 2,001 feet) above MSL. Requires periodic flooding and scouring. Blooms April – September.	Absent	Not likely to occur. No alluvial areas with fine sandy soils within the BSA. Washes within the BSA are highly modified for flood control and do not support habitat for this species.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Scalloped moonwort *Botrychium crenulatum*	Federal: — State: — CRPR: 2B.2 MSHCP: NC	Perennial rhizomatous herb. Occurs in bogs, moist meadows and seeps, marshes, and swamps of lower montane coniferous forest from 1,500 to 3,280 meters (4,900 to 10,800 feet) above MSL. Scattered but not common anywhere in California. Fertile June – July.	Absent	Not likely to occur. BSA is below known elevation range for this species.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CRPR: 1B.1 MSHCP: S	Annual herb. Occurs in sandy soils in chaparral, cismontane woodland, and alluvial fan sage scrub from 200 to 760 meters (656 to 2,493 feet) above MSL. Blooms April – June.	Absent	Not likely to occur. No suitable combination of soils and habitat in BSA.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: — State: — CRPR: 1B.1 MSHCP: S	Annual herb. Occurs in alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland habitats below 640 meters (2,100 feet). Blooms April – September.	Absent	Not likely to occur. No suitable combination of soils and habitat in BSA.
Sonoran maiden fern *Thelypteris puberula* var. *sonorensis*	Federal: — State: — CRPR: 2B.2 MSHCP: NC	Perennial rhizomatous herb. Occurs in meadows, seeps, and streams from 50 to 610 meters (164 to 2,001 feet) above MSL. Blooms January – September.	Absent	Not likely to occur. No suitable habitat in BSA.
Southern jewelflower *Streptanthus campestris*	Federal: — State: — CRPR: 1B.3 MSHCP: NC	Perennial herb. Occurs in open rocky areas in chaparral, lower montane coniferous forest, and pinyon-juniper woodland from 600 to 2,400 meters (2,000 to 7,800 feet) above MSL. Blooms May – July.	Absent	Not likely to occur. No suitable habitat in BSA.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Spiny-hair blazing star *Mentzelia tricuspis*	Federal: — State: — CRPR: 2B.1 MSHCP: NC	Annual herb. Occurs in sandy or gravelly slopes and washes in desert scrub from 150 to 1,280 meters (500 to 4,200 feet) above MSL. Blooms March – May.	Absent	Not likely to occur. BSA is outside of species' known geographic range.
Vernal barley *Hordeum intercedens*	Federal: — State: — CRPR: 3.2 MSHCP: C	Annual herb. Occurs in saline flats and depressions in grassland, and vernal pools from 5 to 1,000 meters (16 to 3,280 feet) above MSL. Blooms March – June.	Absent	Not likely to occur. No suitable combination of soils and habitat in BSA.
White-bracted spineflower *Chorizanthe xanti* var. *leucotheca*	Federal: — State: — CRPR: 1B.2 MSHCP: NC	Annual herb. Occurs in desert habitats with sandy or gravelly soils in alluvial coastal scrub, Mojavean desert scrub, and pinyon and juniper woodland habitats from 300 to 1,200 meters (984 to 3,937 feet) above MSL. Known only from the San Bernardino and San Jacinto Mountains along edge of the Colorado Desert. Blooms April – June.	Absent	Not likely to occur. BSA is outside of species' known geographic range.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Federal: — State: — CRPR: 2B.1 MSHCP: S	Annual herb. Occurs in alkali soils in meadows, riverbeds, vernal pools, and lakes from 5 to 435 meters (20 to 1,430 feet) above MSL. In California, known from the Central Valley and Riverside County. Blooms May – September.	Absent	Not likely to occur. No suitable soils in BSA.

Table 2.21-1. Special-Status Plant Species Known from the Region

Species	Status	Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Yucaipa onion *Allium marvinii*	Federal: — State: — CRPR: 1B.2 MSHCP: S	Perennial bulbiferous herb. Occurs in openings in clay soils in chaparral from 2,500 to 3,500 feet (760 to 1,065 meters) above MSL. Known only from the Yucaipa and Beaumont areas of the San Bernardino Mountains. Blooms April – May.	Absent	Not likely to occur. No suitable soils or chaparral habitat in BSA.

[1] The portion of the BSA in Riverside County is located in the Western Riverside County MSHCP Planning Area (Dudek 2003). The MSHCP designates approximately 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 covered species designated under the MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, the MSHCP provides mitigation for project-specific impacts on these species so the impacts would be reduced to below a level of significance pursuant to CEQA. Beyond the fully covered species, there are species with additional survey/conservation requirements and an additional 28 species not yet adequately conserved. See notes below for MSHCP designations.

Notes:

BSA=biological study area; CEQA=California Environmental Quality Act; FE=Federally Endangered; I-10=Interstate 10; MSL=mean sea level; SE=State Endangered

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=Plants about which we need more information - review list

.1=Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)

.2=Moderately threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)

.3=Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

MSHCP=Western Riverside County MSHCP (only applicable to the portion of the Project within the Western Riverside County MSHCP):

C=Species is covered and adequately conserved under the MSHCP. No additional surveys or analysis needed for MSHCP Compliance.
S=Species is covered and adequately conserved under the MSHCP, but surveys are required within indicated habitats or survey areas.
CR=Species is covered and will be adequately conserved when MSHCP-specified requirements are met.
NC=Species is not covered under the MSHCP.

2.21.2.1 Disturbed Buckwheat Scrub Special-Status Plant Species

Mesa horkelia is a perennial herb that occurs in sandy or gravelly soils in chaparral, cismontane woodland, or coastal scrub. Many of its historical occurrences have been extirpated, including those closest to the BSA (CNPS 2018a). Parry's spineflower is an annual herb that occurs in sandy or rocky openings in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats (CNPS 2018b).

Within the BSA, three patches of Disturbed Buckwheat Scrub that provide marginally suitable habitat for these species were identified adjacent to EB I-10. Two of these patches appear to be revegetated slopes and consist almost entirely of California buckwheat (*Eriogonum fasciculatum*) and brittlebush (*Encelia californica*). The remaining patch of Disturbed Buckwheat Scrub is dominated by California buckwheat. Focused botanical surveys were not conducted in support of this Project, and the field survey was conducted outside of the blooming period for these species. Therefore, the presence or absence of these species in the BSA cannot be confirmed.

2.21.3 Environmental Consequences

2.21.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) does not propose any construction or other disturbance in the BSA; therefore, Alternative 1 (No-Build Alternative) would not result in temporary effects on special-status plant species.

Alternative 2 (Build Alternative)

No non-listed special-status plant species were detected within the BSA during the field visit; as such, Alternative 2 (Build Alternative) is not anticipated to directly impact any individual plants, including mesa horkelia and Parry's spineflower. The Project may, however, have temporary effects on unoccupied potentially suitable habitat for non-listed special-status plant species through the alteration or loss of habitat (see Section 2.19, Natural Communities, for effects on natural communities). Unoccupied potentially suitable habitat would be impacted by temporary construction activities required to provide adequate work space to construct the Project. In addition, minor indirect effects may occur to non-listed special-status plants occurring outside the limits of disturbance and may consist of dust, erosion, introduction of invasive species on disturbed soils, and roadway runoff.

Implementation of Measures WQ-1 through WQ-5 would require the implementation of standard BMPs as part of the Project in accordance with the SWPPP. These BMPs include temporary sediment control, soil stabilization, and the preservation of existing vegetation, as applicable. In

addition, as identified in Section 2.24, Invasive Species, the Project would be required to comply with EO 13112 and Caltrans' Special Provision (SP) 20-1.03C. EO 13112 and Caltrans SP 20-1.03C require that weed control be performed to minimize the introduction and spread of invasive species to and from the job site. With incorporation of BMPs into all phases of the Project in accordance with Caltrans policy and as outlined in Measures WQ-1 through WQ-5 and Measure NC-1, no substantial adverse effects on special-status plants are anticipated to occur.

2.21.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) does not propose any construction or other disturbance in the BSA; therefore, Alternative 1 (No-Build Alternative) would not result in permanent effects on special-status plant species.

Alternative 2 (Build Alternative)

Alternative 2 (Build Alternative) would not result in direct impacts on Disturbed Buckwheat Scrub, which provides suitable habitat for mesa horkelia and Parry's spineflower. With implementation of Measure NC-1, areas of Disturbed Buckwheat Scrub would be protected from impacts during Project construction. Therefore, the Project would not result in any substantial adverse effects on mesa horkelia or Parry's spineflower.

2.21.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation Measures NC-1 through NC-4, as specified in Section 2.19, Natural Communities, and Measures WQ-1 through WQ-5 in Section 2.12, Water Quality and Storm Water Runoff, would result in avoidance of potential Project-related indirect and direct effects on special-status plant species.

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2.22 Animal Species

2.22.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.23 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.22.2 Affected Environment

This section discusses animal species with the potential to occur within the BSA and summarizes the results of research and fieldwork conducted to date and the NES(MI) (Caltrans 2019j) completed for the Project.

Special-status wildlife include species or subspecies listed as threatened, endangered, or being evaluated (proposed) for listing by USFWS or CDFW and/or those listed by CDFW as California fully protected species or SSC.

The literature review identified 50 special-status wildlife species that are known to occur in the region, including 2 fishes, 2 amphibians, 12 reptiles, 20 birds, and 14 mammals (Table 2.22-1). Thirteen of these species are federally and/or state-listed as endangered or threatened, or proposed

endangered or threatened, or are considered California fully protected species. The potential for occurrence of threatened or endangered species is discussed in more detail in Section 2.23, Threatened and Endangered Species.

Animals are considered to be of special-status based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. No special-status wildlife species were observed within the BSA during field surveys. Fifteen non-listed special-status wildlife species have a low to moderate potential to occur in the BSA, including five reptiles, six birds, and four mammals (Table 2.22-1), and are discussed further in Sections 2.22.2.1 through 2.22.2.3.

2.22.2.1 Burrowing Owl

A habitat suitability assessment was conducted for BUOW at the time of the general field survey. Areas mapped as Disturbed Habitat are not suitable for BUOW due to a high density of vegetation cover, largely comprised of Russian thistle. Habitat throughout the rest of the BSA is not suitable for this species due to development, lack of suitable vegetation, fragmentation of open space areas, and proximity to freeways and busy roadways. Suitable BUOW habitat was identified within the 500-foot buffer surveyed as part of the habitat suitability assessment adjacent to much of the BSA, including staging areas, as shown on Figure 2.22-1.

2.22.2.2 Bat Species

Bats are known to use features in highway bridges, such as expansion joints, crevices, or areas sheltered by bridge support beams, as daytime and nighttime roosts. Some species of bats also use bridges for maternity and/or migratory roosts. Roosts provide important refugia, as they provide protection from predators, weather changes, and areas to rest while foraging. While bats do not roost in every highway bridge, certain features make some bridges more suitable for bat roosting than others. Special-status bat species with the potential to occur in the BSA include pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), and western yellow bat (*Lasiurus xanthinus*).

There are several structures in the BSA that provide potential habitat for roosting bats. A bat habitat assessment was conducted during daylight hours by qualified field personnel for the I-10 bridges over Wilson Creek. The bridges each have one crevice that could support daytime roosts. The bridges are adjacent to a small amount of riparian vegetation that could be used for foraging, so there is potential for the I-10 bridges over Wilson Creek to be used as night roosts. Although no bat guano was observed under these bridges at the time of the field survey, bats could occupy these bridges prior to construction of the Project.

Potential bat habitat was observed in both the Wildwood Creek and Yucaipa Creek culverts under I-10 during informal Caltrans site visits. Trees within the BSA have potential to be used as night roosts while foraging. The rest of the bridges within the BSA were not assessed for potential bat-roosting habitat, as all Project activities would be within the paved areas on the roadway above the bridges.

The bat habitat assessment was conducted during the daytime. An emergent/nighttime survey to determine the presence of bats was not conducted.

2.22.2.3 Other Special-Status Wildlife Species

Eleven other non-listed special-status wildlife species known to occur within the vicinity of the Project were determined to have the potential for occurrence within the BSA: San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), Southern California legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis*), orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvillii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), white-tailed kite (*Elanus leucurus*), loggerhead shrike (*Lanius ludovicianus*), Bell's sage sparrow (*Artemisiospiza belli belli*), and ferruginous hawk (*Buteo regalis*).

Within the BSA, suitable habitat to support these species occurs in Disturbed Buckwheat Scrub, Disturbed Riparian Scrub, and Unvegetated Wash. None of these species were observed within the BSA during the field survey.

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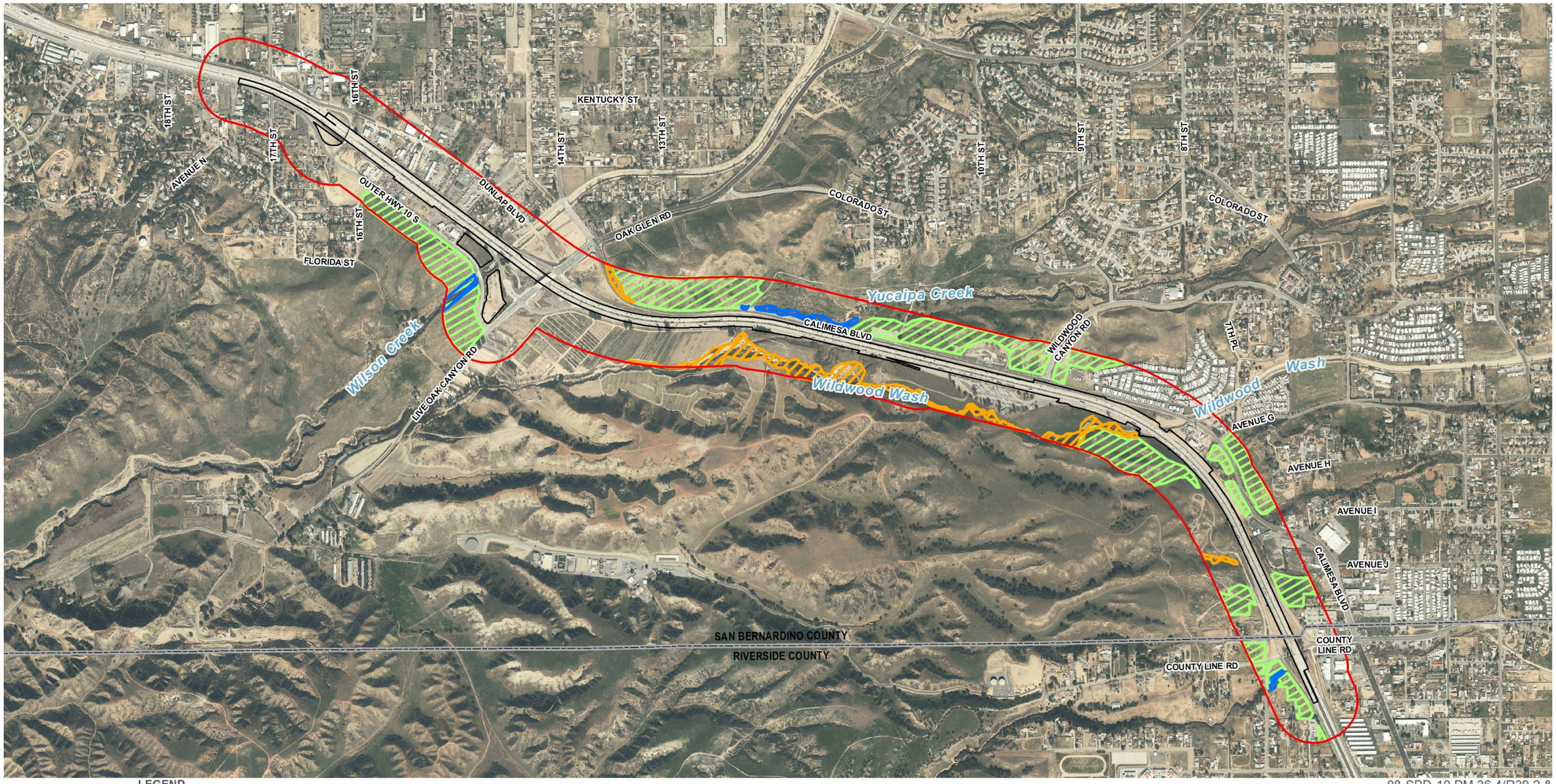


Figure 2.22-1. Species Habitat Mapped in 500-Foot Endangered Species Buffer

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Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Fish				
Santa Ana speckled dace *Rhinichthys osculus ssp. 3*	Federal: — State: SSC MSHCP: NC	Found in riffles in small streams and shore areas with abundant gravel and rock in the Santa Ana and San Gabriel River drainage systems. Found mainly in perennial streams.	Absent	Not likely to occur. No perennial streams in BSA.
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: SSC MSHCP: C	Historical range includes the Los Angeles, San Gabriel, and Santa Ana River drainage systems in Southern California. An introduced population also occurs in the Santa Clara River drainage system in Southern California. Found in shallow, cool, running water.	Absent	Not likely to occur. No perennial streams in BSA.
Amphibians				
Southern mountain yellow-legged frog *Rana muscosa*	Federal: FE State: SE MSHCP: S	In Southern California, populations are restricted to perennial streams in ponderosa pine, montane hardwood-conifer, and montane riparian habitats from 984 feet to above 12,000 feet (370-3,660 meters). Isolated populations exist in the San Gabriel, San Bernardino, and San Jacinto mountains. Active from March (ice melt) to August. Adults hibernate during winter and some individuals in Southern California aestivate during late summer.	Absent	Not likely to occur. No perennial streams in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Western spadefoot *Spea hammondii*	Federal: — State: SSC MSHCP: C	Coastal scrub, valley, and foothill grassland; vernal pool; and wetland habitats. Requires breeding habitat in the vicinity of temporary pools or drainages that form following winter rains.	Absent	Not likely to occur. No suitable breeding habitat consisting of pools that hold water for at least 3 weeks following winter rains in BSA.
Reptiles				
Southern California legless lizard *Anniella stebbinsi*	Federal: — State: SSC MSHCP: NC	Found in moist, warm, loose soil in sparsely vegetated coastal sand dunes, sandy washes, alluvial fans, chaparral, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. Often can be found under surface objects, such as rocks, boards, driftwood, and logs.	Present	Low potential. Marginally suitable habitat occurs in washes in BSA, although soils may not be moist enough.
California glossy snake *Arizona elegans occidentalis*	Federal: — State: SSC MSHCP: NC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Nocturnal. Burrows, hiding underground in daytime.	Present	Low potential. Marginally suitable habitat in Disturbed Buckwheat Scrub in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Orange-throated whiptail *Aspidoscelis hyperythra*	Federal: — State: SSC MSHCP: C	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 915 meters (3,000 feet) elevation. Perennial plants required.	Present	Moderate potential. Suitable habitat occurs in washes in BSA.
Coastal whiptail *Aspidoscelis tigris stejnegeri*	Federal: — State: SSC MSHCP: C	Wide variety of ecosystems, primarily hot and dry open areas with sparse foliage, including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; and Ventura County to Baja California.	Present	Moderate potential. Suitable habitat occurs in Disturbed Buckwheat Scrub in BSA.
Southern rubber boa *Charina umbratica*	Federal: — State: ST MSHCP: CR	Montane oak or conifer forest near rock outcrops and woody debris from 1,540 to 2,460 meters (5,052 to 8,070 feet) above MSL. Occurs in San Bernardino and San Jacinto mountains; and Tehachapi Mountains and Mount Pinos area.	Absent	Not likely to occur. No suitable habitat in BSA.
Red-diamond rattlesnake *Crotalus ruber*	Federal: — State: SSC MSHCP: C	Prefers rocky areas with dense vegetation in desert scrub, chaparral and woodland habitats. Occasionally in grassland and cultivated areas.	Absent	Not likely to occur. No suitable rocky areas in BSA.
San Bernardino ringneck snake *Diadophis punctatus modestus*	Federal: — State: — MSHCP: NC	Prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, and woodlands. From Santa Barbara area south along the coast to San Diego County, and inland into the San Bernardino Mountains.	Absent	Not likely to occur. BSA does not support suitably wet areas to support this species.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Western pond turtle *Emys marmorata*	Federal: — State: SSC MSHCP: C	Inhabits permanent or nearly permanent water, in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. San Francisco Bay south to Baja California, including the Mojave River.	Absent	Not likely to occur. No suitable water sources in BSA.
California mountain kingsnake (San Diego population) *Lampropeltis zonata (pulchra)*	Federal: — State: SSC MSHCP: CR	At lower elevations, this species occurs in riparian woodlands, usually in canyon bottoms that have western sycamore, Fremont cottonwood, coast live oak, willows, wild rose, poison oak, and blackberries. Found most commonly in the vicinity of rocks or boulders near streams or lake shores. Range includes Santa Ana Mountains. Documented from sea level to about 1,800 meters (5,900 feet) elevation. The lower elevation ranges are for coastal situations with lower temperatures and fog or abundant cloud cover. The inland locations are more typical and primarily support the subspecies between 1,220 meters (4,000 feet) and 1,830 meters (6,000 feet).	Absent	Not likely to occur. No suitable combination of multistoried riparian woodland habitat with rocks or boulders in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Coast horned lizard *Phrynosoma blainvillii*	Federal: — State: SSC MSHCP: C	Primarily found in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.	Present	Low potential. BSA supports marginally suitable habitat in sandy washes.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: — State: SSC MSHCP: NC	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains. Widely distributed throughout lowlands, up to 2,130 meters (7,000 feet) above MSL. Ranges from San Luis Obispo County, south through coastal zone, south and west of the deserts, into coastal northern Baja California. Only found in extreme western portions of San Bernardino and Riverside Counties.	Absent	Not likely to occur. BSA is located outside of this subspecies' known geographic range.
Two-striped gartersnake *Thamnophis hammondii*	Federal: — State: SSC MSHCP: NC	Highly aquatic. Found around pools, creeks, cattle tanks, and other water sources, often in rocky areas in oak woodland, chaparral, scrubland, and coniferous forest from sea level to 8,000 feet. From Monterey County to northwest Baja California.	Absent	Not likely to occur. No suitable aquatic habitat in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Birds				
Cooper's hawk *Accipiter cooperii*	Federal: — State: — MSHCP: C	Inhabits forests and woodlands, often in suburbs, parks, quiet neighborhoods, fields, and golf courses. Usually nests in pines, oaks, Douglas-firs, beeches, spruces, and other tree species, often on flat ground rather than hillsides, and in dense woods. Nests typically 25-50 feet high, often about two-thirds of the way up the tree in a crotch or on a horizontal branch. Present year-round in California.	Absent	Not likely to occur. No suitable nesting habitat in BSA. May forage adjacent to BSA.
Tricolored blackbird *Agelaius tricolor*	Federal: — State: SCE MSHCP: C	Emergent marshes, freshwater marshes, typically nesting in marshes, thickets, or non-native vegetation.	Absent	Not likely to occur. No suitable nesting or foraging habitat in BSA.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: — State: — MSHCP: C	Inhabits dry, open hillsides covered with grasses, rocks, and scattered shrubs in coastal sage scrub, open chaparral, scrub oak chaparral, and pinyon pine woodland. Nests on the ground or in a small depression, occasionally near the base of a shrub about 1.5 feet off the ground. Nests are well concealed under grass, leaves, or rocks. Breeds in sparsely vegetated scrubland on hillsides and canyons from 197-4,593 feet (60-1,400 meters). Resident of Southern California year-round, diurnal activity.	Present	Moderate potential. Suitable habitat occurs in Disturbed Buckwheat Scrub habitat in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Golden eagle *Aquila chrysaetos*	Federal: — State: California fully protected MSHCP: C	Open and semi-open areas with native vegetation. Found primarily in mountains, canyon lands, rimrock terrain, and riverside cliffs and bluffs. Nests on cliffs and steep escarpments in grassland, chaparral, shrubland, forest, and other vegetated areas. Year-round, diurnal activity.	Absent	Not likely to occur. No suitable nesting habitat in BSA. Species not expected to forage in BSA due to high traffic levels on I-10.
Bell's sage sparrow *Artemisiospiza belli belli*	Federal: — State: — MSHCP: C	Inhabits coastal sage scrub, chaparral, and other open, scrubby habitats. In mountains of Southern California, this species is found in big sagebrush habitat. Year-round, diurnal activity.	Present	Moderate potential. Suitable habitat occurs in Disturbed Buckwheat Scrub habitat in BSA.
BUOW *Athene cunicularia*	Federal: — State: SSC MSHCP: S	Found in open habitats where brush or tree cover is less than 30 percent, including dry grasslands, agricultural and range lands, railroad ROW, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. Avoids thick, tall vegetation, brush, and trees.	Present	Low potential. Marginally suitable burrowing habitat occurs at south end of BSA. Much of suitable habitat is outside of BSA but within 500-foot BUOW habitat assessment areas.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Ferruginous hawk *Buteo regalis*	Federal: — State: — MSHCP: C	Open country, grasslands, sagebrush, saltbush-greasewood shrublands, and edges of pinyon-juniper forests at low to moderate elevations. Breeding habitat features include cliffs, outcrops, and tree groves for nesting. Active mid-September through mid-April.	Present	Moderate potential. Suitable habitat occurs in Disturbed Buckwheat Scrub and Disturbed Habitat in BSA.
Swainson's hawk *Buteo swainsoni*	Federal: — State: ST MSHCP: C	Inhabits open habitats, such as grasslands, sage flats, and even swaths of agriculture intermixed with native habitat. Nests in solitary trees or in a small grove of trees along a stream.	Present	Not likely to occur. No suitable open habitat present in BSA. However, may forage within 500 feet of BSA during migration.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Federal: FT State: SE MSHCP: S	Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	Absent	Not likely to occur. No suitable habitat in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Black swift *Cypseloides niger*	Federal: — State: SSC MSHCP: C	Found in open skies over mountains and coastal cliffs. Forages widely over any kind of terrain. Nests on ledges or in crevices in steep cliffs, either along coast or near streams or waterfalls in mountains. Summer resident in parts of California, mostly migrates to and from breeding grounds in British Columbia and Washington.	Absent	Not likely to occur. No suitable habitat in BSA.
White-tailed kite *Elanus leucurus*	Federal: — State: California fully protected MSHCP: C	Found in open groves, river valleys, marshes, grasslands, oak grasslands, desert grasslands, and farm country. Often nests in live oaks with open ground and high populations of rodents. Typically nests in the upper third of trees that may be 10–160 feet (33-525 meters) tall. Active year-round.	Present	Not likely to occur. No suitable open habitat present in BSA. However, may forage in areas adjacent to BSA. No impacts would occur on this species, as it would not occur where Project activities would result in direct impacts.
SWFL *Empidonax traillii extimus*	Federal: FE State: SE MSHCP: S	Requires extensive, dense riparian areas with willows or tamarisk. Require standing water. The nearest known breeding population is more than 8 miles away in Prado Basin, Riverside County.	Present	Not likely to occur. No suitable habitat present in BSA. However, may forage within 500 feet of BSA during migration.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
California horned lark *Eremophila alpestris actia*	Federal: — State: — MSHCP: C	Open grasslands and fields, agricultural areas, and open montane grasslands. Prefers bare ground, such as plowed or fall-planted fields for nesting, but may also nest in marshy soil. During the breeding season, this is the only subspecies of horned lark in non-desert Southern California; however, from September through April or early May, other subspecies visit the area.	Absent	Not likely to occur. No suitable open areas in BSA.
Yellow-breasted chat *Icteria virens*	Federal: — State: SSC MSHCP: C	Riparian forest, riparian scrub, and riparian woodland near watercourses. Nests in low, dense vegetation in riparian areas.	Absent	Not expected to occur. No suitable nesting habitat in BSA.
Loggerhead shrike *Lanius ludovicianus*	Federal: — State: SSC MSHCP: C	Inhabits open areas with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. This species frequents agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Loggerhead shrikes are often seen along mowed roadsides with access to fence lines and utility poles.	Present	Low potential. Marginally suitable habitat in Disturbed Buckwheat Scrub. More likely to occur in open areas adjacent to the BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
White-faced ibis *Plegadis chihi*	Federal: — State: — MSHCP: C	Inhabits freshwater marshes, irrigated fields, and flooded pastures. Breeds in colonies, shifting locations year to year based on water levels. Nest sites usually occur in dense marsh growth of bulrush or cattails or in low shrubs or trees above water. Active year-round.	Absent	Not likely to occur. No suitable habitat in BSA.
CAGN *Polioptila californica*	Federal: FT State: SSC MSHCP: C	Year-round resident that occurs in coastal sage scrub and valleys up to about 500 meters (1,640 feet).	Present	Low potential. Marginally suitable habitat occurs in Disturbed Buckwheat Scrub habitat within and adjacent to BSA. However, not likely to occur in BSA due to disturbance and fragmentation of patches. Nearest documented occurrence in CNDDB is over 4 miles north (CNDDB Occurrence 916).

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Purple martin *Progne subis*	Federal: — State: SSC MSHCP: C	Inhabits towns, farms, and semi-open habitats near water. Colonies breed around woodland edges, clearings in mountain forest, and lowland desert with giant saguaro cactus. Summer resident.	Absent	Not likely to occur. No suitable habitat in BSA.
Yellow warbler (nesting) *Setophaga petechia*	Federal: — State: SSC MSHCP: C	Nests in riparian woodland, more widespread in brushy areas and woodlands during migration. Migrants are widespread and common.	Absent	Not likely to occur. No suitable habitat in BSA.
LBVI *Vireo bellii pusillus*	Federal: FE State: SE MSHCP: S	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Absent	Not likely to occur. No suitable habitat in BSA. May forage within 500 feet of BSA during migration.
Mammals				
Dulzura pocket mouse *Chaetodipus californicus femoralis*	Federal: — State: SSC MSHCP: NC	Found in a variety of habitats, including coastal sage scrub, chaparral, and grassland in extreme southwestern and western Riverside County. Limit of range to northwest (at interface with *C. c. dispar*) unclear.	Absent	Not likely to occur. Not known from San Bernardino County. No suitable habitat in Riverside County portion of BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Northwestern San Diego pocket mouse *Chaetodipus fallax*	Federal: — State: SSC MSHCP: C	Occurs in sandy herbaceous areas of chaparral, coastal scrub, and grasslands. Prefers areas with rocks or coarse gravel in coastal scrub. Ranges from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	Absent	Not likely to occur. No suitable substrate within potentially suitable vegetation communities in BSA.
Pallid bat *Antrozous pallidus*	Federal: — State: SSC MSHCP: NC	Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, rocky outcrops, tree hollows or crevices, mines and occasionally buildings, culverts, and bridges. Night roosts may include more open sites, such as porches and open buildings. Occurs in grasslands, shrublands, woodlands, and forest in western North America. Active year-round, nocturnal.	Present	Moderate potential. Suitable roosting habitat in bridges, culverts, and trees in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
San Bernardino flying squirrel *Glaucomys oregonensis californicus*	Federal: — State: SSC MSHCP: CR	Inhabits a wide variety of woodland habitats primarily consisting of conifers, mixed coniferous-deciduous forest, and occasionally broad-leaf-deciduous forest. Commonly found in white fir, coulter pine, Jeffrey pine, sugar pine, lodgepole pine, and ponderosa pine forests. May occur in hardwoods where old or dead trees have numerous woodpecker-type nesting holes. Requires nearby water. Occurs at elevations from 1,200 to 2,560 meters (4,000 to 8,400 feet) above MSL in the San Bernardino and San Jacinto Mountains.	Absent	Not likely to occur. BSA is outside of species' known geographic range.
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: FE State: SSC MSHCP: S	Prefers alluvial scrub or coastal sage scrub habitats on gravelly and sandy soils adjoining river and stream terraces, and on alluvial fans. Rarely occurs in dense vegetation or rocky washes.	Absent	Not likely to occur. Suitable combination of alluvial soils and coastal sage scrub habitat not present in BSA.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST MSHCP: C	Open grasslands or sparse shrublands with less than 50 percent vegetation cover during the summer.	Absent	Not likely to occur. Suitable combination of substrate and vegetation communities not present in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Western mastiff bat *Eumops perotis californicus*	Federal: — State: SSC MSHCP: NC	Roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging. Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral.	Present	Moderate potential. Suitable roosting habitat in bridges, culverts, and trees in BSA.
Western yellow bat *Lasiurus xanthinus*	Federal: — State: SSC MSHCP: NC	Found mostly in desert and desert riparian areas of the southwest U.S. but also expanding its range with the increased usage of native and non-native ornamental palms in landscaping. Individuals typically roost amid dead fronds of palms in desert oases but have also been documented roosting in cottonwood trees. Forage over many habitats.	Present	Moderate potential. Suitable roosting habitat in palms and other ornamental trees but not expected due to low quality of habitat and lack of open water for foraging.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	Federal: — State: SSC MSHCP: C	Occurs in variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountains.	Present	Moderate potential. Suitable habitat in Disturbed Habitat within BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: — State: SSC MSHCP: C	Found in coastal sage scrub and chaparral habitat with rock outcrops, boulders or dense undergrowth, especially in association with cactus patches. Builds stick nests around cacti, or on rocky crevices. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	Absent	Not likely to occur. No suitable habitat with rocky outcrops in BSA.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: — State: SSC MSHCP: NC	Usually associated with cliffs, rock outcrops, or slopes. May roost in buildings (including roof tiles) or caves. Rare in California, where it is found in Riverside, San Diego, Imperial and possibly Los Angeles Counties. More common in Mexico.	Absent	Not likely to occur. No suitable roosting or foraging habitat in BSA and north of known geographic range.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: — State: SSC MSHCP: NC	Found in arid desert habitats of the Mojave Desert and southern Central Valley of California. Alkali desert scrub and desert scrub habitats are preferred, with somewhat lower densities expected in other desert habitats, including succulent shrub, wash, and riparian areas. Also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats.	Absent	Not likely to occur. No suitable habitat in BSA.

Table 2.22-1. Special-Status Wildlife Species Known in the Region

Species	Status	General Habitat and Distribution	Habitat Present/ Absent	Potential for Occurrence and Rationale
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: — State: SSC MSHCP: S	Found in open landscapes associated with alluvial, aeolian, or well-drained upland deposits of sandy soils. Prefers lower elevation grassland, alluvial sage scrub, and coastal sage scrub habitats.	Absent	Not likely to occur. Suitable combination of substrate and vegetation communities not present in BSA.
American badger *Taxidea taxus*	Federal: — State: SSC MSHCP: NC	Secretive species found in relatively undisturbed areas of grasslands, woodlands, and desert. Requires friable soils and relatively open ground.	Absent	Not likely to occur. No suitable habitat in BSA.

Notes:

BSA=biological study area; BUOW=burrowing owl; CNDDB=California Natural Diversity Database; FE=federally endangered; FT=federally threatened; I-10=Interstate 10; LBVI=least Bell's vireo; MSL=mean sea level; ROW=right-of-way; SCE=state candidate endangered; SE=state endangered; SSC=species of special concern; ST=state threatened; SWFL=southwestern willow flycatcher

MSHCP=Western Riverside County Multiple Species Habitat Conservation Plan (only applicable to the portion of the Project within the Western Riverside County MSHCP):

C=Species is covered and adequately conserved under the MSHCP. No additional surveys or analysis needed for MSHCP Compliance.
S=Species is covered and adequately conserved under the MSHCP, but surveys are required within indicated habitats or survey areas.
CR=Species is covered and will be adequately conserved when MSHCP-specified requirements are met.
NC=Species is not covered under the MSHCP.

2.22.3 Environmental Consequences

2.22.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) does not propose any construction or other disturbance in the BSA; therefore, Alternative 1 (No-Build Alternative) would not result in temporary effects on special-status animal species.

Alternative 2 (Build Alternative)

Temporary effects on several special-status animal species may occur during construction of Alternative 2 (Build Alternative) when habitats are temporarily disturbed during grading or other activities, as described in the following sections.

Burrowing Owl

Although Alternative 2 (Build Alternative) is not expected to directly affect any BUOWs due to the low probability of its occurrence in the BSA, Alternative 2 (Build Alternative) could result in construction effects on BUOWs through the temporary reduction in the quality of foraging habitat during construction. These temporary effects on BUOW cannot be quantified because they depend on many uncontrollable factors. Temporary effects are expected as a result of noise, vibration, dust, and human encroachment in areas adjacent to suitable BUOW habitat.

If BUOWs occupy suitable habitat identified within the 500-foot BUOW buffer, construction of Alternative 2 (Build Alternative) could potentially result in indirect impacts on foraging activities as a result of temporarily increased noise and activity levels, including in staging areas identified as being in close proximity to suitable BUOW habitat. However, as outlined in Measure AS-2, preconstruction surveys will be conducted to determine the presence of BUOWs within 500 feet of Project construction activities. If BUOWs are found, avoidance buffers will be established to ensure impacts on BUOWs are minimized. With implementation of Measure AS-2, no substantial adverse temporary effects on BUOWs are anticipated.

Bat Species

As noted above, the I-10 bridges over Wilson Creek, in addition to the Wildwood Creek and Yucaipa Creek culverts, provide suitable roosting habitat for bats. Although signs of bat presence (e.g., bat guano) were not observed during the daytime habitat assessments, bats could move into the area prior to construction. Should bats be roosting at any of these structures during construction, construction noise, lighting, exhaust and vibration could temporarily disrupt bat roosting. Similarly, geotechnical boring within Wilson Creek could result in indirect impacts on bats roosting in the bridges over this creek if bats roost in this bridge at the time of boring activities.

The selection of roosting sites by bats varies seasonally. Therefore, surveys during the bat maternity season and preconstruction surveys are recommended. As outlined in Measure AS-3, preconstruction bat surveys would be conducted to determine the need for installation of exclusion devices to ensure that no bats are occupying these structures prior to and during construction. If bats are encountered during preconstruction surveys, Measure AS-4 would require the preparation

and implementation of a bat management plan. With implementation of Measures AS-3 and AS-4, no substantial adverse temporary effects on special-status bats would occur.

Nesting Birds

Raptors and migratory birds nesting within the BSA could be affected by vegetation removal and/or proximity to construction activities. Temporary effects include increased noise and vibration that may result in an alteration in bird behavior and the potential to abandon nests and/or alter nesting locations. In addition, increased dust on vegetation from construction may alter bird behavior for preferred nest sites. As discussed above, construction during the breeding season could disturb nesting activities, possibly resulting in nest abandonment, loss of young, and reduced health and vigor of eggs and/or nestlings. In addition, construction activities may result in a shift in foraging locations and behaviors for nesting birds that occur near the Project.

Project impacts on nesting birds are primarily limited to the removal of trees and shrubs within the BSA. No raptor nests or other nests in trees or shrubs were observed during biological surveys, indicating that these resources may be less suitable for nesting than other resources located outside the BSA and farther from I-10. Implementation of Measure AS-1 would require that any native vegetation removal or tree trimming activities occur outside of the bird nesting season. If vegetation removal is required during the nesting season, a preconstruction survey would be conducted to identify the locations of nests, and an exclusionary buffer would be established. In addition, Project effects on the loss of nesting trees and shrubs would be offset through replacement landscaping of trees and shrubs within the BSA, where feasible. With landscaping and adherence to Measure AS-1, no substantial adverse temporary effects on nesting birds are anticipated.

Other Special-Status Wildlife Species

Temporary direct impacts on other special-status animal species would include a temporary loss of habitat, including trees and shrubs used for nesting and burrows used by ground dwelling mammals and reptiles. Species that are relatively mobile (e.g., birds and many small mammals and reptiles) would likely disperse into nearby areas during construction. Some mortality of less mobile and burrowing species may occur.

Temporary impacts would be limited to the construction period and include increased noise levels and increased human disturbance. Construction noise may adversely affect nesting birds, particularly if construction and vegetation clearing begins after the onset of the nesting season; however, all vegetation clearing and nest removal would be completed in accordance with Measure AS-1, and no substantial temporary effects on nesting birds are anticipated.

Temporary indirect effects on wildlife present outside of the BSA could result from impacts on water quality during construction; however, these impacts would be avoided and minimized through implementation of BMPs in accordance with the SWPPP, as outlined in Measures WQ-1 through WQ-5. The SWPPP and anticipated treatment BMPs are designed to minimize impacts on water quality and accommodate and treat runoff from the road surface. Incorporation of BMPs into all phases of the Project in accordance with Caltrans policy would ensure no substantial adverse effect on wildlife associated with construction or operational effects on water quality. With implementation of BMPs in accordance with Caltrans policy, no substantial adverse indirect effects on wildlife outside of the BSA are expected as a result of the Project.

2.22.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) does not propose any construction or disturbance in the BSA; therefore, Alternative 1 (No-Build Alternative) would not result in substantial adverse permanent effects on special-status wildlife species.

Alternative 2 (Build Alternative)

Burrowing Owl

Suitable burrowing and foraging habitat for this species is present outside of the BSA within the 500-foot BUOW buffer. Habitats present within the Project construction limits do not provide suitable BUOW burrowing or foraging habitat. Therefore, implementation of Alternative 2 (Build Alternative) would not cause the permanent loss of suitable BUOW habitat. Impacts on BUOW burrowing and foraging behavior outside of the BSA within the 500-foot BUOW buffer are only anticipated during construction and would, therefore, be temporary. No long-term, permanent effects on BUOW burrowing or foraging habitat are expected because permanent modifications would only occur within the I-10 median. I-10 would not be widened beyond its existing limits and would, therefore, not have any long-term effects on BUOW foraging or burrowing behavior in areas of suitable habitat outside of the BSA. Therefore, no substantial long-term adverse effects on BUOWs are anticipated.

Bat Species

Suitable bat-roosting habitat is present within the BSA, as described above. Once the Project is constructed, the widening and modification of the I-10 bridges over Wilson Creek would increase future potential roosting habitat by providing more roosting crevices. As a result, the Project is not anticipated to permanently affect bat-roosting habitat and would not result in adverse permanent effects on bat species.

Nesting Birds

Permanent impacts from loss of vegetation communities are limited to the removal of 0.03 acre of Disturbed Riparian Scrub habitat associated with constructing new bridge piers in Wilson Creek; this habitat is comprised of non-native, invasive plant species that do not provide substantial value as nesting or foraging habitat. The loss of this vegetation would not be considered a substantial permanent effect on nesting birds, as 0.43 acre of this habitat would remain in the BSA and be protected from disturbance with implementation of Measure NC-1.

Other Special-Status Wildlife Species

Under Alternative 2 (Build Alternative), permanent impacts from loss of vegetation communities are limited to the removal of 0.03 acre of Disturbed Riparian Scrub habitat associated with constructing new bridge piers in Wilson Creek. As noted above, this habitat is dominated by non-native, invasive plant species that do not provide substantial habitat value for other special-status wildlife species. Aside from the special-status species discussed above, other special-status wildlife species with the potential to occur in the BSA in Wilson Creek include reptiles that prefer relatively open, sandy washes to dense, non-native tree vegetation. Therefore, the removal of 0.03 acre of Disturbed Riparian Scrub habitat would result in no permanent direct effects on these special-status wildlife species.

Permanent indirect effects of the Project on special-status wildlife species in areas adjacent to the Project footprint could result from the introduction or spread of invasive plant species, fire, human encroachment, and pollutants associated with vehicle use once the Project has been constructed. With implementation of BMPs in accordance with Caltrans policy and Measures NC-2 and NC-3, no substantial long-term adverse effects on special-status wildlife species would occur.

2.22.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of Measures NC-1 through NC-4, presented in Section 2.19, Natural Communities, would reduce potential Project impacts on special-status wildlife species within and/or adjacent to Project work areas.

In addition to Measures NC-1 through NC-4, the following measures will also be implemented to reduce Project impacts on special-status wildlife species within and/or adjacent to Project work areas. Measures will be implemented under SBCTA and Caltrans oversight. Any changes will require SBCTA and Caltrans approvals.

AS-1 To avoid impacts on nesting birds, any native vegetation removal or tree (native or exotic) trimming activities will occur outside of the nesting bird season. In the event that vegetation clearing is necessary during the nesting season (i.e., February 1 through September 30), a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the biologist, and construction or clearing will not be conducted within this buffer zone until the biologist determines that the young have fledged or the nest is no longer active.

AS-2 A preconstruction survey for BUOW will be conducted by a qualified biologist within 30 days prior to vegetation clearing/grading. If BUOW are found within 500 feet of the Project limits during the preconstruction survey, the biologist will determine appropriate measures necessary to ensure there is no take of active BUOW nests and the CDFW conservation requirements are met with regard to BUOW.

AS-3 A qualified bat biologist familiar with crevice-dwelling bat and bird species will conduct a presence/absence survey of the I-10 bridge over Wilson Creek and Wildwood Creek and Yucaipa Creek culverts within the Project limits during the bat maternity season (April 1 through August 31) to assess the potential for use for bat roosting. The survey will be conducted at least one maternity season prior to construction to allow enough time for implementation of temporary exclusion measures if deemed necessary based on the survey results. If signs of bats are present, additional surveys including a combination of structure inspections, exit counts, and acoustic surveys will be conducted to ensure detection of day- and night-roosting bats. The qualified bat biologist will also perform preconstruction surveys or temporary exclusion within 2 weeks prior to construction, as bat and bird roosts can change seasonally.

AS-4 If an active maternity roost is detected, a bat management plan will be prepared. The bat management plan will be submitted to CDFW prior to implementation and will include appropriate avoidance and minimization efforts such as:

Daytime Work Hours. All work conducted under the I-10 bridges over Wilson Creek will take place during the day. If this is not feasible, lighting and noise will be directed away from night roosting and foraging areas.

Temporary Exclusion. The need for temporary exclusion devices will be determined by a qualified and permitted bat biologist. This biologist will also supervise installation of all temporary exclusion devices. Prior to the initiation of construction activities, to avoid

indirect disturbance of bats and birds while roosting in areas that would be adjacent to construction activities, any portion of the structure to have potential bat- or bird-roosting habitat will have temporary bat and bird eviction and exclusion devices installed. Eviction and subsequent exclusion will be conducted during the fall (September or October) to avoid trapping flightless young bats inside during the summer months or hibernating/overwintering individuals during the winter. Such exclusion efforts are dependent on weather conditions, take a minimum of 2 weeks to implement, and must be continued to keep the structures free of bats and birds until the completion of construction. All eviction and/or exclusion techniques will be coordinated between the qualified bat biologist and CDFW if the structure is occupied by bats. If deemed appropriate, the biologist may recommend installation of temporary bat panels during construction.

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2.23 Threatened and Endangered Species

2.23.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and Caltrans, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within

the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.23.2 Affected Environment

This section is based on the NES(MI) (Caltrans 2019j) prepared for the Project. There were two biological resource buffers considered for the Project: the BSA and the endangered species buffer area. The BSA includes the maximum disturbance limits associated with the Project activities, plus a 50-foot buffer. The endangered species buffer area includes the maximum disturbance limits associated with the Project activities, plus a 500-foot buffer.

A list of federal and state threatened and endangered species with the potential to occur within the vicinity of the BSA was prepared using information provided by the CDFW's CNDDB Rarefind program (CDFW 20198) and the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2019). An unofficial USFWS species list was generated using the online Information for Planning and Conservation Environmental Conservation Online System November 16, 2017. An official USFWS species list was obtained from the online Information for Planning and Conservation Environmental Conservation Online System May 11, 2020 (USFWS 2020). Appendix H includes the official USFWS species list. An official National Marine Fisheries Service (NMFS) Endangered Species Act (ESA) list was obtained January 29, 2019, using NMFS' California Species List Tool, which indicated that there were no NMFS-listed species, Marine Mammal Protection Act Species, or critical habitat for these species identified for the Yucaipa 7.5' topographic quadrangle.

Based on the literature review, a total of 41 special-status plant species and 54 special-status animal species have the potential to occur on or within the vicinity of the Project BSA (Table 2.22-1). Eight of the 41 special-status plant species and 13 of the 54 special-status animal species are federally and/or state-listed as endangered, threatened species, candidates for listing, and/or CFP species and are discussed in this section. All other special-status plant and animal species are discussed in Section 2.21, Plant Species, or Section 2.22, Animal Species. There is no designated critical habitat in the BSA. The nearest designated critical habitat is for San Bernardino kangaroo rat (*Dipodomys merriami parvus*), located approximately 4.25 miles north of the BSA.

No threatened or endangered plant species were observed or otherwise detected in the BSA at the time of the site visit; however, focused plant surveys were not conducted. Seven of the eight threatened and/or endangered plant species identified during the literature review as potentially occurring in or within the vicinity of the BSA are considered absent from the BSA because suitable

habitat for these species is not located within the BSA. There is marginally suitable habitat for one listed plant species, Nevin's barberry (*Berberis nevinii)* (federal and state endangered); however, this perennial shrub was not observed within the BSA and soils are likely too compacted to support the plant species.

No federally listed endangered or threatened wildlife species were observed within the BSA during surveys; however, habitat assessments were not conducted during the breeding season nor were protocol surveys for listed species conducted. Nine of the 13 threatened and/or endangered wildlife species identified during the literature review as potentially occurring in or within the vicinity of the BSA are considered absent from the BSA because suitable habitat for these species is not located within the BSA. Four of the 13-listed wildlife species identified during the literature review have a low potential to occur within 500 feet of the BSA. These species are CAGN (*Polioptila californica californica*), Swainson's hawk (*Buteo swainsoni*), SWFL (*Empidonax traillii extimus*), and LBVI (*Vireo bellii pusillus*). The BSA does not support suitable habitat or occurs outside of the geographical range to support any other listed wildlife species.

Two bird species known to occur within the vicinity of the BSA are listed as CFP species. One of these, white-tailed kite (*Elanus leucurus*), has low potential to forage adjacent to, but would not nest near, the BSA. The BSA does not support suitable habitat to support the other CFP species, which include the golden eagle (*Aquila chrysaetos*).

2.23.2.1 Threatened or Endangered Plant Species

Nevin's Barberry

Nevin's barberry is an evergreen shrub endemic to California. It is thought to have always been an uncommon plant and naturally occurs in scattered locations, ranging from the foothills of the San Gabriel Mountains in northern Los Angeles County, south and east to the Loma Linda Hills in southern San Bernardino County, and south to near the foothills of the Peninsular Ranges of southwestern Riverside County (63 *Federal Register* [FR] 54958). The BSA is located just outside of the USFWS' range map (USFWS 2009) for Nevin's barberry. Nevin's barberry most often occurs on sandy soils in low-gradient washes, alluvial terraces, and canyon bottoms, along gravelly wash margins, or on coarse soils on steep, generally north-facing slopes in association with the following plant communities: alluvial scrub, cismontane chaparral, coastal sage scrub, oak woodland, and/ or riparian scrub or woodland (73 FR 8412).

Within the Project BSA, marginally suitable habitat for this species occurs in Disturbed Buckwheat Scrub. The two patches of Disturbed Buckwheat Scrub adjacent to EB I-10 appear to be revegetated slopes, and it is unlikely that Nevin's barberry was planted in this area or has established on its own.

The remaining patch of Disturbed Buckwheat Scrub was dominated by California buckwheat (*Eriogonum fasiculatum*), and Nevin's barberry was not observed during the field survey. However, a focused botanical survey for Nevin's barberry was not conducted. Habitat within the Project BSA is only marginally suitable, and it is not anticipated that this species has been established within the Project BSA.

2.23.2.2 Threatened or Endangered Animal Species

Coastal California Gnatcatcher

Within the BSA, potentially suitable habitat for CAGN occurs within the Disturbed Buckwheat Scrub habitat mapped in three small polygons adjacent to I-10 near the southern boundary of the Project, as shown in Section 2.22, Animal Species (Figure 2.22-1). All of these areas are disturbed and consist of approximately 40 percent cover of California buckwheat and California encelia (*Encelia californica*) with non-native grasses in the understory. The two polygons adjacent to EB I-10 appear to be restored habitat on the freeway cut-slope. There is 1.16 acre of this low-quality potentially suitable habitat for CAGN within the BSA. No CAGN were detected by qualified field surveyors in or adjacent to the BSA during the field survey.

Disturbed Buckwheat Scrub was also identified within the 500-foot endangered species buffer area (Figure 2.22-1). Most of the Disturbed Buckwheat Scrub within the 500-foot endangered species area is associated with Wildwood Wash south of the BSA.

The nearest extant documented observation of CAGN in the vicinity is 5.8 miles northwest of the BSA, recorded August 21, 2008 (CNDDB Occurrence #916). There is no direct habitat connection between the BSA and this occurrence. The BSA is located at the very northern edge of the range for CAGN, as mapped by USFWS (USFWS 2018a). In addition, the BSA is not within any designated critical habitat for CAGN (USFWS 2018b). Due to the lack of suitable plant species and habitat structural diversity, location of the BSA at the northern edge of the CAGN range, distance from documented occurrences, fragmentation by heavily disturbed and urban cover type, and high levels of human activity within the BSA and immediately adjacent to the BSA, the Disturbed Buckwheat Scrub is unlikely to support breeding CAGN.

Swainson's Hawk

The BSA does not support suitable nesting habitat for Swainson's hawk, as it is well outside the known nesting range for this species. Therefore, Swainson's hawk is not expected to nest in or near the BSA. In addition, the BSA does not support any suitable foraging habitat for Swainson's hawk due to its close proximity to a busy highway corridor. However, this species may occur near the BSA as a migrant in spring and fall and could forage in open space within 500 feet of the BSA.

Southwestern Willow Flycatcher

The nearest CNDDB-documented occurrence of SWFL is located approximately 4.5 miles southwest of the BSA in a willow/mule fat thicket in San Timoteo Canyon (CNDDB; SWFL Occurrence #29). This occurrence is over 5 river miles away from the BSA and is separated from the BSA by areas of sparse riparian habitat with little to no understory that at best provides low-quality foraging habitat.

The BSA does not support suitable SWFL foraging or nesting habitat. Disturbed Riparian Scrub habitat in Wilson Creek consists of non-native tree and shrub species dominated by tree of heaven and castor bean.

An approximately 0.15-acre patch of Riparian Scrub located adjacent to the BSA, within the 500-foot ESA buffer, consists of black willows, arroyo willow, and mule fat that could support SWFL foraging (Figure 2.22-1). The patch is small, isolated, and the mule fat does not contribute to a substantial understory that would allow for SWFL nesting.

Two other small areas of suitable foraging habitat for SWFL were identified within the 500-foot endangered species buffer area (Figure 2.22-1). One of these areas is located north of I-10 and Calimesa Boulevard and consists entirely of mule fat scrub with no tree canopy. The other area is located near the southeastern edge of the BSA just south of County Line Road and consists of a small cluster of arroyo and black willows with no understory. Both of these areas are isolated from any documented SWFL occurrences or potential SWFL nesting habitat. No suitable SWFL nesting habitat was identified within the 500-foot endangered species buffer area. Due to a lack of suitable foraging and nesting habitat for SWFL within the BSA, protocol surveys for SWFL were not conducted and are not expected to be required.

Least Bell's Vireo

The nearest CNDDB-documented occurrence of LBVI is located approximately 4.5 miles southwest of the BSA in a willow/mule fat thicket in San Timoteo Canyon (CNDDB; LBVI Occurrence #268). This occurrence is over 5 river miles away from the BSA and is separated from the BSA by areas of sparse riparian habitat with little to no understory that, at best, provide low-quality foraging habitat.

The BSA does not support any suitable LBVI foraging or nesting habitat. Disturbed Riparian Scrub habitat in Wilson Creek consists of non-native tree and shrub species dominated by tree of heaven and castor bean. No suitable nesting habitat for LBVI occurs within the BSA.

An approximately 0.15-acre patch of Riparian Scrub located adjacent to the BSA, within the 500-foot ESA buffer, consists of black willows, arroyo willow, and mule fat that could support LBVI foraging (Figure 2.22-1). The patch is small and isolated, and the mule fat does not contribute to a substantial understory that would allow for LBVI nesting.

Two other small areas of suitable foraging habitat for LBVI were identified within the 500-foot ESA buffer (Figure 2.22-1). One of these areas is located north of I-10 and Calimesa Boulevard and consists entirely of mule fat scrub with no tree canopy. The other area is located near the southeastern edge of the BSA just south of County Line Road and consists of a small cluster of arroyo and black willows with no understory. Both of these areas are isolated from any documented LBVI occurrences or potential LBVI nesting habitat. No suitable LBVI nesting habitat was identified within the 500-foot endangered species buffer area. Due to a lack of suitable foraging and nesting habitat for LBVI within the BSA, protocol surveys for LBVI were not conducted and are not expected to be required.

2.23.3 Environmental Consequences

2.23.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) does not propose any construction or other disturbance in the BSA; therefore, Alternative 1 (No-Build Alternative) would not result in temporary direct or indirect effects on threatened and/or endangered species.

Alternative 2 (Build Alternative)

Nevin's Barberry

As previously stated, within the Project BSA, marginally suitable habitat for Nevin's barberry occurs in areas containing Disturbed Buckwheat Scrub. The two patches of Disturbed Buckwheat Scrub occur adjacent to EB I-10 and appear to be revegetated slopes. Therefore, it is unlikely that Nevin's barberry was planted in this area or has been established on its own. The remaining patch of Disturbed Buckwheat Scrub was dominated by California buckwheat, and Nevin's barberry was not observed during the field survey. Based on information contained in the NES(MI) (Caltrans 2019j), it is not anticipated that Nevin's barberry occurs within or adjacent to the BSA because only marginally suitable habitat of Disturbed Buckwheat Scrub exist to support this species.

While Nevin's Barberry is not anticipated to occur within or adjacent to the BSA, focused surveys to rule out this species' presence were not conducted. However, under Alternative 2 (Build Alternative), no direct impacts on Nevin's Barberry are anticipated to occur, as Disturbed Buckwheat Scrub habitat is only marginally suitable within the BSA, and it is not anticipated that this species has established within the BSA. Alternative 2 (Build Alternative) could result in minor indirect impacts on this species, if present, through the generation of dust and erosion, the introduction of invasive species on disturbed soils, and increases in roadway runoff during construction activities.

As identified in Measure NC-1, Disturbed Buckwheat Scrub within the BSA will be identified as ESAs. Prior to construction, exclusionary fencing will be installed around all ESAs to prevent accidental encroachment into these areas. In addition, implementation of Measures WQ-1 through WQ-5 will require the implementation of standard BMPs as part of the Project in accordance with the SWPPP. These BMPs include temporary sediment control, soil stabilization, and the preservation of existing vegetation, as applicable. As identified in Section 2.24, Invasive Species, the Project would be required to comply with EO 13112 and Caltrans SP 14.6-05. EO 13112 and Caltrans SP 14.6-05 require that weed control be performed to minimize the introduction and spread of invasive species to and from the job site. With incorporation of BMPs in accordance with Caltrans policy and as outlined in Measures WQ-1 through WQ-5 and Measure NC-1, no substantial adverse effects on threatened or endangered plant species are anticipated to occur under Alternative 2 (Build Alternative).

Coastal California Gnatcatcher

Although Alternative 2 (Build Alternative) is not expected to directly affect CAGN due to the low probability of occurrence in the BSA, Alternative 2 (Build Alternative) could result in indirect temporary effects on CAGN as a result of construction activities. Specifically, short-term increases in noise levels from construction could result in temporary impacts on CAGN if individuals are deterred from foraging or dispersing through the Disturbed Buckwheat habitat adjacent to the Project or if construction noise during the breeding season interferes with communication between breeding adults or between adults and juveniles, thereby reducing breeding productivity.

As identified in Measure NC-1, Disturbed Buckwheat Scrub within the BSA will be identified as ESAs. Prior to construction, exclusionary fencing will be installed around all ESAs to prevent accidental encroachment into these areas. In addition, implementation of Measures NC-2 through NC-4 will require the implementation of standard BMPs aimed at preventing the spread of invasive species and providing temporary sediment control, soil stabilization, and the preservation of existing vegetation, as applicable. Measure AS-1 requires that any native vegetation removal or tree trimming activities be conducted outside of the nesting bird season, while Measure TE-1 requires CAGN preconstruction surveys to ensure that CAGN, if present, are not affected during construction activities. With implementation of Measures NC-1 through NC-4, Measure AS-1, and Measure TE-1, no substantial temporary adverse effects on CAGN are anticipated to occur under Alternative 2 (Build Alternative).

Swainson's Hawk

The BSA does not support suitable Swainson's hawk foraging or nesting habitat. Spring or fall migrants of this species have the potential to forage in open space adjacent to the BSA, but the BSA

is well outside the known nesting range for Swainson's hawk and does not support suitable Swainson's hawk foraging or nesting habitat. Since this species can fly away from any disturbances associated with construction activities identified for Alternative 2 (Build Alternative), the Project would not negatively impact this species if it were to migrate through areas adjacent to the BSA during construction. Therefore, no substantial temporary adverse effects on Swainson's hawk would occur under Alternative 2 (Build Alternative).

Southwestern Willow Flycatcher

If SWFL occupy suitable habitat identified within the 500-foot endangered species buffer, the Project could potentially result in indirect impacts on foraging activities as a result of temporarily increased noise and activity levels; however, due to present high noise levels from existing traffic, it is anticipated that noise impacts on SWFL foraging habitat would not be elevated to a level that would cause disruption of foraging for the entire 500-foot endangered species buffer. Implementation of Measure TE-2 will avoid potential noise impacts on foraging SWFL.

As identified in Measure NC-1, Disturbed Riparian Scrub within the BSA will be identified as ESAs. Prior to construction, exclusionary fencing will be installed around all ESAs to prevent accidental encroachment into these areas. In addition, implementation of Measures NC-2 through NC-4 will require the implementation of standard BMPs aimed at preventing the spread of invasive species and providing temporary sediment control, soil stabilization, and the preservation of existing vegetation, as applicable. Measure AS-1 requires that any native vegetation removal or tree trimming activities be conducted outside of the nesting bird season, while Measure TE-2 requires SWFL preconstruction surveys to ensure that SWFL, if present, are not affected during construction activities. With implementation of Measures NC-1 through NC-4, Measure AS-1, and Measure TE-2, no substantial temporary adverse effects on SWFL are anticipated under Alternative 2 (Build Alternative).

Least Bell's Vireo

If LBVI occupy suitable habitat identified within the 500-foot ESA buffer, the Project could potentially result in indirect impacts on foraging activities as a result of temporarily increased noise and activity levels; however, due to present high noise levels from existing traffic, it is anticipated that noise impacts on LBVI foraging habitat would not be elevated to a level that would cause disruption of foraging for the entire 500-foot endangered species buffer. Implementation of Measure TE-2 will avoid potential noise impacts on foraging LBVI.

As identified in Measure NC-1, Disturbed Riparian Scrub within the BSA will be identified as ESAs. Prior to construction, exclusionary fencing will be installed around all ESAs to prevent accidental

encroachment into these areas. In addition, implementation of Measures NC-2 through NC-4 will require the implementation of standard BMPs aimed at preventing the spread of invasive species and providing temporary sediment control, soil stabilization, and the preservation of existing vegetation, as applicable. Measure AS-1 requires that any native vegetation removal or tree trimming activities be conducted outside of the nesting bird season, while Measure TE-2 requires LBVI preconstruction surveys to ensure that LBVI, if present, are not affected during construction activities. With implementation of Measures NC-1 through NC-4, Measure AS-1, and Measure TE-2, no substantial temporary adverse effects on LBVI are anticipated under Alternative 2 (Build Alternative).

2.23.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) does not propose any construction or disturbance in the BSA; therefore, Alternative 1 (No-Build Alternative) would not result in direct effects on threatened and/or endangered species.

Alternative 2 (Build Alternative)

Nevin's Barberry

As previously identified, marginally suitable habitat for Nevin's barberry occurs in areas containing Disturbed Buckwheat Scrub. Although Disturbed Buckwheat Scrub is located within the Project limits, Alternative 2 (Build Alternative) would not result in any direct impacts on Disturbed Buckwheat Scrub, and, as a result, the Project would not result in direct impacts on Nevin's barberry. Therefore, no permanent adverse effects on Nevin's barberry are anticipated to occur under Alternative 2 (Build Alternative).

Coastal California Gnatcatcher

As noted above, no CAGN were detected by qualified field surveyors in or adjacent to the BSA during the field survey, and they are not expected to occur within the BSA due to marginal habitat quality. Additionally, Alternative 2 (Build Alternative) does not directly impact any of the potentially suitable habitat for CAGN. Increases in operational noise levels could render the marginally suitable CAGN habitat currently present within and adjacent to the BSA less suitable for this species. However, with implementation of Alternative 2 (Build Alternative), operational noise levels are predicted to increase only slightly (1 dBA) over the next 46 years. If present, CAGN would be expected to adapt to a small change occurring over a long period of time. Therefore, no operational noise impacts are anticipated on CAGN, if present during operations. Alternative 2 (Build Alternative)

would not result in any changes to lighting that would affect CAGN, and no indirect lighting impact is anticipated to occur. With implementation of Measure NC-1, vegetation communities outside of the Project limits will be protected. Therefore, no substantial long-term adverse effects on CAGN are anticipated to occur under Alternative 2 (Build Alternative).

Swainson's Hawk

The BSA does not support suitable Swainson's hawk foraging or nesting habitat, as it is well outside the known nesting range for this species. Therefore, Swainson's hawk is not expected to nest in or near the BSA. However, this species may occur near the BSA as a migrant bird in spring and fall and could forage in open space adjacent to the BSA. Alternative 2 (Build Alternative) would not result in any loss of suitable habitat for Swainson's hawk within the Project limits. Therefore, no substantial long-term adverse effects on Swainson's hawk are anticipated under Alternative 2 (Build Alternative).

Southwestern Willow Flycatcher

The Project would result in permanent loss of 0.03 acre of Disturbed Riparian Scrub habitat and temporary impacts on less than 0.01 acre of Disturbed Riparian Scrub, all of which consists of non-native species with dominants consisting of tree of heaven and castor bean. No willows or mule fat would be removed. The portion of Disturbed Riparian Scrub subject to direct impacts does not provide suitable SWFL foraging or nesting habitat. In addition, with implementation of Measure NC-1, vegetation communities outside of the Project limits will be protected. Therefore, no substantial long-term adverse effects on SWFL are anticipated under Alternative 2 (Build Alternative).

Least Bell's Vireo

The Project would result in permanent loss of 0.03 acre of Disturbed Riparian Scrub habitat and temporary impacts on less than 0.01 acre of Disturbed Riparian Scrub, all of which consists of non-native species with dominants consisting of tree of heaven and castor bean. No willows or mule fat would be removed. The portion of Disturbed Riparian Scrub subject to direct impacts does not provide LBVI foraging or nesting habitat. In addition, with implementation of Measure NC-1, vegetation communities outside of the Project limits will be protected. Therefore, no substantial long-term adverse effects on LBVI are anticipated under Alternative 2 (Build Alternative).

2.23.4 Federal Effect Determinations

As stated previously, a USFWS species list was acquired on May 11, 2020 (Appendix H). No critical habitat for these species was identified within the BSA. In addition, as mentioned previously, an

official NMFS ESA list was obtained January 29, 2019. There were no NMFS-listed species, Marine Mammal Protection Act Species, or critical habitat for these species identified for the Yucaipa 7.5' topographic quadrangle.

An effect determination for every listed species and critical habitat known within the Project vicinity is summarized in Table 2.23-1, below.

Table 2.23-1. Federal Endangered Species Act Effect Determinations

Species	Status	Effect Finding	Effect Finding for Critical Habitat
PLANTS			
Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*)	Endangered	No effect	N/A
Marsh sandwort (*Arenaria paludicola*)	Endangered	No effect	N/A
Nevin's barberry (*Berberis nevinii*)	Endangered	No effect	N/A
Salt marsh bird's-beak (*Choloropyron maritimum* ssp. *maritimum*)	Endangered	No effect	N/A
San Jacinto Valley crownscale (*Atriplex coronata var. notatior*)	Endangered	No effect	N/A
Santa Ana River woollystar (*Eriastrum densifolium ssp. sanctorum*)	Endangered	No effect	N/A
Slender-horned spineflower (*Dodecahema leptoceras*)	Endangered	No effect	N/A
FISH			
Santa Ana sucker (*Catostomus santaanae*)	Threatened	No effect	N/A
AMPHIBIANS			
Southern mountain yellow-legged frog	Endangered	No effect	N/A

Table 2.23-1. Federal Endangered Species Act Effect Determinations

Species	Status	Effect Finding	Effect Finding for Critical Habitat
(*Rana muscosa*)			
BIRDS			
Western yellow-billed cuckoo (*Coccyzus americanus* occidentalis)	Threatened	No effect	N/A
Southwestern Willow Flycatcher *(Empidonax traillii extimus)*	Endangered	No effect	N/A
Coastal California Gnatcatcher (Polioptila californica californica)	Threatened	No effect	N/A
Least Bell's Vireo *(Vireo bellii pusillus)*	Endangered	No effect	N/A
MAMMALS			
San Bernardino Merriam's Kangaroo Rat *(Dipodomys merriami parvus)*	Endangered	No effect	N/A

With implementation of Measures NC-1 through NC-3, the Project would have *No Effect* on Nevin's barberry. With implementation of Measures NC-1 through NC-3, AS-1, and TE-1 and TE-2, the Project will have *No Effect* on CAGN, SWFL, or LBVI. The Project would not result in any direct or indirect permanent adverse impacts on any remaining species listed in Table 2.23-1, above. Therefore, the Project will have *No Effect* on these Federal or Threatened Endangered species.

2.23.5 Avoidance, Minimization, and/or Mitigation Measures

Measures NC-1 through NC-4 and Measure AS-1 will be implemented for avoidance of indirect impacts on Nevin's barberry and CAGN. In addition, the following avoidance measures will be implemented to avoid indirect impacts on threatened or endangered species. Measures will be implemented under SBCTA and Caltrans oversight. Any changes will require SBCTA and Caltrans approvals.

TE-1 Prior to initiation of construction in areas within 500 feet of suitable CAGN habitat, 3 separate days of preconstruction surveys will be conducted within suitable habitat, where accessible, within 7 days of construction. Should CAGN be identified within these areas, Project activities will not be allowed within 500 feet of CAGN observations, and additional noise mitigation measures will be implemented, as needed, to maintain noise levels of less than 60 dBA L_{eq} or baseline, whichever is greater, at the observation location. Section 7 consultation will be initiated with USFWS prior to conducting Project activities within 500 feet of the CAGN observation.

TE-2 Prior to initiation of construction in areas within 500 feet of suitable SWFL or LBVI foraging habitat, 3 separate days of preconstruction surveys will be conducted within suitable habitat, where accessible, within 7 days of construction. Should SWFL or LBVI be identified within these areas, Project activities will not be allowed within 500 feet of SWFL or LBVI observations, and additional noise mitigation measures will be implemented, as needed, to maintain noise levels of less than 60 dBA L_{eq} or baseline, whichever is greater, at the observation location. Section 7 consultation will be initiated with USFWS prior to conducting Project activities within 500 feet of the SWFL or LBVI observations should work within 500 feet be required during the breeding season.

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2.24 Invasive Species

2.24.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999, directs the use of the State's invasive species list, maintained by the California Invasive Species Council, to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.24.2 Affected Environment

This section is based on the NES(MI) (Caltrans 2019j) prepared for the Project.

Exotic plant species exist within the nonnative plant communities throughout the BSA, within patches of native plant communities, and in areas that have been disturbed by human uses. Exotic species are typically more numerous adjacent to roads and developed areas and frequently border the ornamental landscape. In the past, these areas likely supported grasslands, oak woodland, coastal sage scrub, chaparral, and riparian habitats. Consequently, scattered plant species associated with these plant communities are often found in these areas.

The California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory (Cal-IPC 2017) is based on information submitted by members, land managers, botanists, and researchers throughout the state, as well as published sources. The inventory highlights nonnative plants that are serious problems in wildlands (natural areas that support native ecosystems, including national, state, and local parks; ecological reserves; wildlife areas; National Forests; Bureau of Land Management lands; etc.). The inventory categorizes plants as high, moderate, or limited, based on the species' negative ecological impact in California. Plants categorized as high have severe ecological impacts. Plants categorized as moderate have substantial and apparent, but not severe, ecological impacts. Plants categorized as limited are invasive, but their ecological impacts are minor on a statewide level.

Twelve non-native plant species were identified within the BSA. Of these, 11 non-native plant species are listed on the Cal-IPC inventory. Based on information contained in the Cal-IPC inventory, six of the non-native plant species are categorized with a moderate rating, four with a limited rating, and one with a high rating. Invasive plant species with a high rating can have severe

ecological impacts on physical processes, plant and animal communities, and vegetation structure. In addition, invasive plant species with a high rating have moderate to high rates of dispersal and establishment and are widely distributed ecologically. The non-native plant species with a high rating identified within the BSA is red brome (*Bromus madritensis* ssp. *rubens*).

In compliance with EO 13112, weed control would be performed to minimize the importation of non-native plant material during and after construction. Caltrans SSP 14.6-05, Invasive Species Control, would be implemented. This provision includes specifications for preventing the introduction and spread of invasive species to and from the job site. These measures may include, but are not limited to the following:

- All construction site best management practices (BMP) from the SWPPP would be followed.
- Following completion of Project-related disturbance, affected areas adjacent to native vegetation would be reseeded with plant species approved by the Caltrans District Biologist that are native to the vicinity.
- After construction, all reseeded areas would avoid the use of species listed in the Cal-IPC inventory that have a high or moderate rating.
- A plant establishment period would be developed for reseeded areas during final design. A plant establishment period is a duration of time that allows newly installed plant material to reach a state of maturity, requiring minimal ongoing maintenance for survival. A plant establishment period typically includes the removal of litter and trash, weeding, water application, irrigation repair, replacement of plant material that dies, and other activities required to ensure the long-term survival of plant material.

2.24.3 Environmental Consequences

2.24.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would result in the continuation of existing conditions, and the construction of proposed improvements on I-10 would not occur. As a result, no construction activities associated with the Project would occur, and there would be no potential for invasive species to be introduced in the Project area. Therefore, no temporary impacts associated with invasive species would occur under Alternative 1 (No-Build Alternative).

Alternative 2 (Build Alternative)

Invasive species impacts are considered permanent impacts when the introduction of invasive species into previously undisturbed areas would cause invasive species to spread and cause permanent impacts on the habitat. Therefore, there are no temporary impacts as a result of invasive species under Alternative 2 (Build Alternative). Permanent impacts associated with invasive species as a result of construction are described below.

2.24.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Alternative 1 (No-Build Alternative) would not result in the construction of any of the proposed improvements on I-10 and, therefore, would not result in permanent impacts associated with invasive species.

Alternative 2 (Build Alternative)

Under Alternative 2 (Build Alternative), there would be the potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasive species, disturbances to soil surfaces, and improper removal and disposal of invasive species that result in the seed being spread along I-10. Invasive species also have the potential to be included in seed mixtures and mulch.

As stated above, Caltrans SSP 14.6-05, Invasive Species Control, would be implemented to limit permanent impacts on species in the Project area due to the potential for the introduction and spread of invasive plant species. Potential Project-related permanent impacts on invasive species would not be substantially adverse.

2.24.4 Avoidance, Minimization, and/or Mitigation Measures

In compliance with EO 13112, weed control would be performed to minimize the importation of non-native plant material during and after construction. Caltrans SSP 14.6-05, Invasive Species Control, would also be implemented. This provision includes specifications for preventing the introduction and spread of invasive species to and from the job site. Measure NC-2, presented in Section 2.19, Natural Communities, would minimize impacts from the introduction and spread of invasive species to and from the project work areas into environmentally sensitive areas.

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2.25 Construction Impacts

This section summarizes the potential construction-related impacts considered for Alternative 2 (Build Alternative). Some construction-related impacts are considered temporary impacts for resources, such as the use of TCEs on parcels of land, but construction-related impacts can also have a permanent impact on a resource, such as paleontological, cultural, and biological resources. These impacts are discussed in detail in the corresponding sections in Chapter 2 (Sections 2.1 through 2.24).

The environmental impacts described below for Alternative 2 (Build Alternative) would not occur under Alternative 1 (No-Build Alternative) because Alternative 1 (No-Build Alternative) does not propose modifications to EB I-10 or any freeway ramps, and, therefore, would have no environmental impact associated with construction activities.

The Project would require the construction activities related to adding a TCL on EB I-10, widening of the median of Oak Glen Creek Bridge, upgrading existing drainage facilities, replacing barriers, restriping, and paving. In general, under Alternative 2 (Build Alternative), the improvements are anticipated to be constructed within existing publicly owned ROWs. However, it is anticipated that Alternative 2 (Build Alternative) would require TCEs for proposed staging areas where there is not sufficient room within the public ROWs to accommodate the storage of materials or equipment for those improvements. Any land used as a TCE during construction of improvements under Alternative 2 (Build Alternative) would be returned to its original or better condition following completion of the construction activities requiring that TCE.

Detailed TCE information for Alternative 2 (Build Alternative) is described, in detail, in Chapter 1. A detailed stage construction plan would be created during final design to minimize the impacts on freeway operations; however, a conceptual staging sequence is summarized below:

- Prior to commencing the work, the appropriate construction and temporary signs would be installed to inform and warn motorists about the upcoming construction activities.
- Temporary striping would be applied on both directions of travel to reduce the lane widths and shift them to the outside. The temporary striping configuration would provide 11 feet for Lane No. 1 and 2, 12 feet for Lane No. 3, and 8 feet for outside shoulders.
- With the k-rail in place, the bridge widening construction at Oak Glen Creek Bridge could be started concurrently with the work to remove the asphalt shoulders and thrie beam, as well as the clearing and grubbing of the median.

- Grading and installing the proposed concrete barriers could be started, followed by the installation of any new drainage systems, final grading, and the construction of new base material and concrete pavement between the new concrete barrier and the edge of existing concrete slabs.
- The k-rail removal and the final signing and striping installation for both directions of travel would occur.

The Project's BMPs, drainage modifications, and other construction activities on the outside of the freeway would potentially be implemented concurrently with the above items.

2.25.1 Existing and Future Land Use

Alternative 2 (Build Alternative) would be constructed mainly within the existing Caltrans ROW, with the exception of select potential TCE for staging areas. The required TCE for staging areas are only needed during the construction phase and would be returned to its original use upon completion of construction. Therefore, the Project construction activities are not anticipated to result in any adverse temporary impacts on existing or future land use resources.

2.25.2 Consistency with State, Regional, and Local Plans and Programs

Construction of the proposed Project improvements under Alternative 2 (Build Alternative) would not be inconsistent with the various goals and policies previously discussed in Table 2.2-1 (Section 2.2, Consistency with State, Regional, and Local Plans and Programs). Therefore, the Project construction activities are not anticipated to result in any adverse temporary impacts on the Project's consistency with state, regional, and local plans and programs.

2.25.3 Parks and Recreational Facilities

Alternative 2 (Build Alternative) would result in temporary effects on five parcels for construction staging. None of the affected parcels are designated as parks or recreational facilities, and no temporary closures of recreational facilities within the Project limits would occur as a result of the proposed Project. However, during construction, temporary indirect effects related to increases in noise, emissions from equipment, and direct disruptions to local traffic and circulation along I-10 throughout the Project limits could result. Any indirect, air quality, and GHG impacts related to construction activities would be minimized through the implementation of Measures AQ-1 through AQ-3 (Section 2.16, Air Quality) and GHG-1 and GHG-2 (Chapter 3, CEQA Checklist). Measures N-1 and N-3 (Section 2.17, Noise) would minimize indirect construction effects related to noise.

Direct temporary disruptions to traffic and circulation during construction would be minimized by implementation of a TMP, as recommended by Measure TR-1 (Section 2.8, Traffic and

Transportation and Bicycle Facilities). With the implementation of these minimization measures, no adverse temporary effects on existing parks and recreational resources during Project construction would occur.

2.25.4 Growth

Impacts related to growth would result from operation of Alternative 2 (Build Alternative) but not from construction of the Project, as described in Section 2.4, Growth. While the Project would generate additional short-term employment opportunities during construction, the majority of these jobs are expected to be filled by residents of the Cities of Yucaipa and Calimesa, as well as surrounding communities. Therefore, no substantial population growth effects would occur during Project construction.

2.25.5 Community Character and Cohesion Impacts

Construction activities would not create a barrier that divides the neighborhood or limits access within the community, impact special groups or environmental justice communities, reduce social interaction, or remove or relocate community serving facilities. The TCEs for staging areas are located on land within existing Caltrans and City ROW or on undeveloped property that would be returned to original condition once construction is complete. Although there are pocketed areas within the community impact study area with residential uses, none of these sensitive areas would be impacted by TCEs. Table 2.5-5 lists and describes the existing trails, parks, and open space areas within the community impact study area. The Project would not result in direct temporary impacts on these recreational resources, as the construction of the Project would occur within existing ROW owned by the City of Yucaipa or Caltrans.

2.25.6 Environmental Justice

Environmental justice and non-environmental justice populations across the community impact study area would experience short-term air quality, noise, and traffic impacts during construction of Alternative 2 (Build Alternative). As described in Section 2.5, Community Character and Cohesion, and Section 2.6, Environmental Justice, those short-term effects on all populations, including environmental justice populations, can be substantially reduced through implementation of the measures described in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, Section 2.16, Air Quality, and Section 2.17, Noise. With implementation of those measures, the construction of Alternative 2 (Build Alternative) would not result in effects that are appreciably more severe or greater in magnitude on environmental justice populations than the effects experienced by non-environmental justice populations.

2.25.7 Utilities and Emergency Services

No utility relocations or interruptions to existing utility services are anticipated. As described in Section 2.7, Utilities and Emergency Services, if unforeseen relocations are determined necessary during the final design phase or PS&E phase, a utility relocation plan would be implemented to ensure that disruptions to businesses and residents would be avoided or limited to the extent practicable, as described in Measure UT-1. In addition, prior to any ground-disturbing activities, Measure UT-2 would be implemented to ensure the location of all underground utilities is identified. With the inclusion of Measures UT-1 and UT-2, no temporary substantial direct or indirect adverse effects would occur to utilities during the Project's construction phase.

To protect worker health and safety, the public, and the environment from the potential risk of fires during construction activities, Measure UT-3 would be implemented to create defensible spaces around active construction sites.

During construction of Alternative 2 (Build Alternative), some impairment to the delivery of emergency services, including fire and police response times, may occur as a result of lane restrictions, ramp closures, road closures, and/or detours. The proposed improvements could result in traffic delays to travelers and emergency service providers when traveling in and around construction areas and to/from emergency scenes when lane restrictions, ramp closures, road closures, and/or detours are in effect.

Measure TR-1, described in Section 2.8, Transportation and Traffic/Pedestrian and Bicycle Facilities, addresses short-term transportation impacts during construction of Alternative 2 (Build Alternative), including potential delays for emergency service providers. Measure T-1 requires the preparation of a TMP during final design, including coordination of the development of the TMP with emergency services providers. The TMP would be implemented during Project construction.

With implementation of Measures UT-1, UT-2, UT-3, and TR-1, no substantial temporary adverse effects on utilities and emergency services would occur during construction of Alternative 2 (Build Alternative).

2.25.8 Traffic and Transportation/Pedestrian and Bicycle Facilities

Construction activities, such as restriping lanes, replacing pavement, widening the Oak Glen Creek Bridge, and modifying drainage, would temporarily affect traffic operations on I-10. There are no pedestrian, bicycle, or public transportation facilities with the Project limits, and no pedestrian, bicycle, or public transportation facilities would be affected by the Project. Potential construction-related traffic and circulation impacts would be minimized through implementation of a comprehensive TMP, prepared in accordance with the Caltrans' Guidelines DD 60, to minimize

motorist delays when performing work activities on I-10. As described in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, the TMP would apply a variety of techniques, including public information, motorist information, incident management, construction strategies, demand management, and alternative route strategies. Implementation of Measure TR-1, as described in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, would reduce temporary impacts on circulation during the construction of Alternative 2 (Build Alternative). Therefore, Alternative 2 (Build Alternative) would not result in substantial adverse effects on traffic or circulation in the Project area.

2.25.9 Visual and Aesthetics

Short-term visual impacts would occur on viewer groups during construction of Alternative 2 (Build Alternative), as described in Section 2.9, Visual and Aesthetics. Those temporary effects would include the presence of construction equipment and materials, construction staging areas, temporary roadside barriers, and construction and detour signage within the Project limits, as well as construction activities, such as truck activity and the removal of existing mature plantings. As described in Section 2.17, Noise, grading and equipment operations would be conducted between the hours of 7 a.m. and 8 p.m. Monday through Saturday, according to Yucaipa Municipal Code Section 15.12.210, to the extent practicable. Therefore, it is anticipated that the majority of the construction activity would occur during the day. In the event that nighttime construction is required, temporary construction lighting would adhere to City and Caltrans standards. As described in Section 2.9, Visual and Aesthetics, Measure VIS-1 would reduce potential impacts related to an increase in light and glare.

The effects of vegetation clearing would gradually cease over time, as landscaping for Alternative 2 (Build Alternative) matures. New plantings can reasonably be expected to reach mature growth within a 1- to 3-year period, depending on the species and initial planting size, although some tree species could take longer to reach mature growth. Tree and vegetation removal on public lands would comply with City and Caltrans landscaping policies, as described in Measure VIS-2.

With implementation of Measures VIS-1 and VIS-2, no substantial temporary adverse effects on visual and aesthetic resources would occur.

2.25.10 Cultural Resources

As described in Section 2.10, Cultural Resources, there are no recorded archaeological resources or historic properties within the APE, and the Project construction activities are not expected to extend into undisturbed sediments. Although the Project is not anticipated to impact archaeological resources or historic properties, construction activities, such as excavating and the drilling of

geotechnical borings, have the potential to inadvertently discover unknown or undocumented cultural resources. While the potential to discover an unknown or undocumented cultural resource is low, implementation of Caltrans standard practice for the discovery of Native American cultural resources, as described in Measure CR-1), and human remains, as described in Measure CR-2, would further reduce the potential to inadvertently affect previously unknown or undocumented cultural resources.

As described in Section 2.10, Cultural Resources, no Native American sacred sites/traditional cultural properties in the APE for Alternative 2 (Build Alternative) were identified. Therefore, construction of Alternative 2 (Build Alternative) would not result in adverse effects on those types of resources. However, several Native American Tribal representatives have indicated the overall study area is sensitive for unknown cultural resources. As a result, construction of Alternative 2 (Build Alternative) could potentially impact those types of cultural resources..

2.25.11 Hydrology and Floodplain

According to the FEMA FIRMs, Wilson Creek, Yucaipa Creek, and Wildwood Wash are located within 100-year floodplains; however, construction activities are only anticipated to occur within Wilson Creek. Effects on Wilson Creek would result from construction access, geotechnical borings, and placement of new bridge footings to support widening of the bridge over Wilson Creek. In addition, temporary falsework would be constructed at the base of the existing Wilson Creek Bridge but would not span the entire width of the bridge. As such, construction activities for Alternative 2 (Build Alternative) would encroach within a 100-year floodplain.

Construction above Yucaipa Creek and Wildwood Channel would not result in substantial impacts on floodplain values. Work in these areas is limited to improvements on existing bridges, and impairments to the beneficial uses are temporary due to construction activities. Thus, there is low risk to beneficial floodplain values due to Project construction activities. Alternative 2 (Build Alternative) would require heavy construction within the creek bed of Wilson Creek that could result in the resuspension and dispersal of fine-grained bottom sediments within the water column. In addition, construction activities adjacent to Wilson Creek could disturb soil and promote erosion of the channel banks.

The erosion of soils could result in the transport of solid materials in surface runoff into the channel. Therefore, soil disturbance in and adjacent to Wilson Creek, as well as erosion of the channel banks and nearby areas, could result in increased turbidity and TSS during construction. Compliance with the NPDES Construction General Permit (Measure WQ-1) and preparation and implementation of a SWPPP (Measure WQ-2) would minimize temporary impacts related to the floodplain. As described

in Section 2.11, Hydrology and Floodplain, Wilson Creek has been designated as having existing or potential beneficial water uses, including value to support wildlife and plant habitat, outdoor recreational, and municipal supply/water recharge. Project construction activities would be required to meet RWQCB basin turbidity standards, and instream construction would be required to implement water quality testing before and during construction.

During construction, the Project has the potential to impact sensitive vegetation communities and wildlife species. Sensitive vegetation communities include Disturbed Buckwheat Scrub and Disturbed Riparian Scrub, which are located within Wilson Creek. Effects on these vegetation communities may include dust, erosion, and stormwater and roadway runoff as a result of construction activities. Measures NC-1, NC-2, and NC-4, described in Section 2.19, Natural Communities, would help minimize potential temporary impacts on these vegetation communities.

Construction-generated noise, lighting, exhaust, and vibration may impact wildlife species within Wilson Creek, such as bats, BUOW, CAGN, Swanson's hawk, SWFL, and LBVI. Measures AS-1 through AS-4, Measures NC-1 through NC-4, Measure WQ-2, and Measures TE-1 and TE-2 would help minimize potential temporary impacts on these animal species.

Although construction may occur within Wilson Creek, it is anticipated that wildlife would continue to use Wilson Creek to travel along the corridor. It is anticipated that adverse temporary impacts would not occur on wildlife movement in the area. In addition, there are no recreational or commercial fisheries located within or near the Project limits, and there are no aquifer recharge basins within the Project's APE. Therefore, construction of Alternative 2 (Build Alternative) would not result in adverse effects on the natural and beneficial floodplain values of Wilson Creek.

2.25.12 Water Quality

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared with existing conditions, as described in Section 2.12, Water Quality and Storm Water Runoff. Additionally, during a storm event, soil erosion could occur at an accelerated rate. Chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and, thereby, have the potential to be transported via storm runoff into receiving waters.

During construction of Alternative 2 (Build Alternative), approximately 12.3 acres of soil would be disturbed. Soil disturbance exposes soils and increases the potential for soil erosion, which could be a source of downstream sediment. When sediment enters a receiving water body, it can increase

turbidity, smother bottom dwelling organisms, and suppress aquatic vegetation growth. When new structures are installed or modified (e.g., street and on-/off-ramp improvements), concrete and/or asphalt applications could be a source of fine sediment, metals, and chemicals that could change the pH levels in downstream water bodies. Grading and other earth-moving activities during construction could be a source of petroleum products and heavy metals if the equipment engines leak. Furthermore, temporary or portable sanitary facilities provided for construction workers could be a source of sanitary waste. Groundwater dewatering during construction also has the potential to introduce pollutants to receiving surface waters.

As described in Section 2.12, Water Quality and Storm Water Runoff, implementation of the SWPPP, Erosion Control Plan, and performance standards from the Caltrans, San Bernardino County, and Riverside County stormwater ordinances would avoid or minimize the potential for construction-related water quality impacts. Therefore, implementation of Measures WQ-1 through WQ-4 would minimize the potential for construction-related surface water pollution and ensure water quality is not adversely impacted.

2.25.13 Geology/Soils/Seismic/Topography

Alternative 2 (Build Alternative) would require grading and construction activities being applied to existing earth surfaces as described in Section 2.13, Geology/Soils/Seismic/Topography. Temporary impacts also include soil compaction and increased possibility of soil erosion due to exposure of excavated soil. Additionally, during a storm event, soil erosion could occur at an accelerated rate. As described in Section 2.12, Water Quality and Storm Water Runoff, Alternative 2 (Build Alternative) would be required to adhere to the requirements of the General Construction Permit and implement erosion and sediment control BMPs specifically identified in the Project SWPPP to keep sediment from moving off site into receiving waters.

The construction activities associated with Alternative 2 (Build Alternative) could be impacted by ground motion, liquefaction, and possibly ground rupture (deformation) to some degree if an earthquake were to occur during construction. Implementation of safe construction practices and compliance with Caltrans and Cal-OSHA requirements would minimize the impacts of these conditions.

All improvements associated with Alternative 2 (Build Alternative) would be designed, constructed, and operated in accordance with all applicable standards, including Caltrans and local jurisdiction design and safety standards for local roadway improvements included in Alternative 2 (Build Alternative). In addition, Cal-OSHA worker safety during construction would follow regulations contained in Title 8, Chapter 3.2, California Safety and Health Regulations, CCR. Furthermore, with

implementation of Measures GEO-1 and GEO-2, described in Section 2.13, Geology/Soils/Seismic/Topography, appropriate engineering design and construction methods to address potential geological effects described above during construction of Alternative 2 (Build Alternative) would be incorporated into Project design.

2.25.14 Paleontology

Direct impacts on paleontological resources may result from construction of Alternative 2 (Build Alternative) but not from operation of the facility itself, as described in Section 2.1, Paleontology. Effects on paleontological resources are considered permanent, not temporary. Therefore, construction of Alternative 2 (Build Alternative) may result in permanent impacts on paleontological resources. These permanent impacts are further discussed in Section 2.14.3.2 of this document. Specifically, potential direct impacts on paleontological resources could result from ground-disturbing activities associated with the construction of Alternative 2 (Build Alternative). Although the construction would be short term, the loss of some fossils and fossil-bearing rocks would be a permanent impact. Measures PAL-1 and PAL-2, as described in Section 2.14, Paleontology, would be implemented during construction of Alternative 2 (Build Alternative), where there is potential for encountering paleontological resources.

2.25.15 Hazardous Waste and Materials

Alternative 2 (Build Alternative) involves soil disturbance and the demolition/removal of existing materials, which could release hazardous materials, such as lead and ACMs during construction, as described in Section 2.15, Hazardous Waste and Materials. Additionally, Alternative 2 (Build Alternative) is within the vicinity of subject properties that may result in potential exposure to hazards or hazardous materials during construction. Hazardous materials would be properly handled, contained, transported, and disposed of in compliance with applicable regulations and requirements, which may include the RCRA, the Clean Air Act, the CWA, the California DTSC Environmental Health Standards for the Management of Hazardous Waste, the provisions of the San Bernardino County Fire Department Hazardous Materials Division, and USDOT hazardous materials regulations.

Alternative 2 (Build Alternative) would require disturbance of existing materials (e.g., bolts on Oak Glen Creek Bridge) that contain ACMs. The presence of these materials would pose a potential hazardous waste risk if the removal of materials from the bridge is required. To limit impacts related to the release of ACMs, any Project construction activities that would require the disturbance of ACMs within the existing Oak Glen Bridge would be performed by a Contractors State Licensing Board licensed contractor holding a Cal-OSHA registration to perform asbestos-related work and

under the supervision of a certified asbestos consultant. In addition, written notification would be made to the SCAQMD, in accordance with SCAQMD Rule 1403. Written notification would also be made to Cal-OSHA in accordance with 8 CCR 1529. Finally, all friable asbestos waste containing asbestos at 1 percent or greater would be disposed of as hazardous waste. Any work performed during any activities (i.e., drilling, cutting, sanding, scraping) that disturb the ACMs at Oak Glen bridge would be completed in compliance with the most recent edition of all applicable federal, state, and local regulations, standards, and codes governing abatement, transport, and disposal of ACMs.

Based on the ISA prepared for the Project, concentrations of lead exceeding U.S. EPA Regional Screening Levels for unrestricted land use (residential) were not found within the Project corridor. Soil determined to contain lead concentrations exceeding stipulated thresholds would be managed in accordance with Caltrans Standard Specifications, Section 14-11.08 Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead (2015), and under the July 1, 2016, ADL Agreement between Caltrans and the California DTSC. This ADL Agreement allows such soils to be safely reused within the Project limits as long as all requirements of the ADL Agreement are met.

As described in Section 2.15, Hazardous Waste and Materials, disposal of all materials would need to meet all local, state, and federal regulations, where applicable. Measures HAZ-1 and HAZ-2, as described in Section 2.15, Hazardous Waste and Materials, would be implemented during construction of Alternative 2 (Build Alternative), where there is potential for encountering hazardous waste/materials and use/disposal of hazardous materials during construction.

2.25.16 Air Quality

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO_3, VOCs, directly emitted PM_{10} and $PM_{2.5}$, and TACs, such as DPM. SCAB is currently in federal extreme nonattainment for O_3 and nonattainment $PM_{2.5}$ standards. At the state level, SCAB is in nonattainment for O_3, $PM_{10,}$ and $PM_{2.5}$ standards.

Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities would temporarily generate PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, NO_X, and VOCs. Sources of fugitive dust would include

disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} and $PM_{2.5}$ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} and $PM_{2.5}$ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles (PM_{10}) would settle near the source, while fine particles ($PM_{2.5}$) would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the U.S. EPA to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_X, VOCs, and some soot particulate (PM_{10} and $PM_{2.5}$) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. However, these emissions would be temporary and limited to the immediate area surrounding the construction site.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting federal standards can contain up to 5,000 ppm of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under California law and California ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel, so SO_2-related issues due to diesel exhaust would be minimal. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site(s). Such odors would be quickly dispersed below detectable thresholds as distance from the site(s) increases.

As described in Section 2.16, Air Quality, Alternative 2 (Build Alternative) would result in a maximum construction emissions of approximately 33 pounds per day for PM_{10}, approximately 3 pounds per day for PM2.5, approximately 51 pounds per day for CO, and approximately 75 pounds per day for NOx. These daily maximum construction emissions would not exceed SCAQMD daily criteria pollutant thresholds set forth by California ARB. Measures AQ-1 through AQ-3, as described in Section 2.16, Air Quality, would be implemented during construction of Alternative 2 (Build Alternative) to address pollutant emissions associated with construction activities and equipment.

2.25.17 Noise

Two types of short-term noise impacts would occur during Project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to

the Project site and would incrementally raise noise levels on roads leading to construction staging areas. The pieces of heavy equipment for grading and construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the Project vicinity. Thus, as projected construction traffic would be short term, construction-related worker commutes and equipment transport noise impacts would not be adverse.

The second type of short-term noise impact is related to noise generated during actual roadway construction activities. Grading and equipment operations would be conducted between the hours of 7 a.m. and 8 p.m. Monday through Saturday, according to Yucaipa Municipal Code Section 15.12.210. In addition, as stated in Yucaipa Municipal Code Section 87.0905, construction noise is exempt from City noise standards if the activities occur between 7 a.m. and 7 p.m. Monday through Saturday.

Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels along the Project alignment as construction progresses.

Noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance. Construction equipment is expected to generate noise levels up to 95 dBA at a distance of 25 feet, 89 dBA at 50 feet, and 83 at 100 feet.

The closest sensitive receptor, Receptor 48, is comprised of residential uses located approximately 80 feet south of the Project construction area. This receptor location could be subject to short-term noise between approximately 76 and 85 dBA L_{max} generated by construction activities along the Project alignment. However, no adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14-8.01 regarding specifications for controlling noise and vibration, Caltrans Standard Specifications Section 14-8.02, Noise Control, and applicable local noise standards.

Implementation of Measures N-1, N-2, and N-3 would minimize the temporary noise and vibration impacts from construction. These minimization measures would reduce noise and vibration impacts from construction activities by utilizing sound-controlling devices, turning off of idling equipment, and restricting hours of vibration-intensive activities during construction. Therefore, no substantially adverse temporary noise impacts would occur during construction of the Project.

2.25.18 Natural Communities

Alternative 2 (Build Alternative) would not result in any direct or indirect temporary impacts on Disturbed Buckwheat Scrub, as the refinement of the temporary Project limits near Disturbed Buckwheat Scrub allows for the avoidance of direct Project impacts on this community. The Project construction activities would result in direct temporary impacts on 0.01 acre of Disturbed Riparian Scrub as a result of equipment access and work areas needed to construct new bridge piers in Wilson Creek.

Prior to construction, exclusionary fencing would be installed around all environmentally sensitive areas to prevent accidental encroachment into these areas. In addition, implementation of Measures NC-2 through NC-4 would require the implementation of standard BMPs aimed at preventing the spread of invasive species and providing temporary sediment control, soil stabilization, and the preservation of existing vegetation (as applicable). With implementation of Measures NC-1 through NC-4, no substantial temporary adverse construction effects on natural communities are anticipated for Alternative 2 (Build Alternative).

2.25.19 Wetlands and Other Waters

As described in Section 2.20, Wetlands and Other Waters, Alternative 2 (Build Alternative) would result in direct temporary impacts on non-wetland waters as a result of construction vehicle access and work and staging areas needed for the construction of bridge piers in Wilson Creek. Implementation of NC-1 through NC-4, as described in Section 2.18, Natural Communities, would protect off-site waters from inadvertent impacts during construction. Compliance with the General Storm Water Construction Permit would protect waters from indirect water quality effects.

Alternative 2 (Build Alternative) would result in direct temporary impacts on Disturbed Riparian Scrub and unvegetated streambed as a result of construction vehicle access and work and staging areas needed for the construction of bridge piers in Wilson Creek. However, as provided in Measure WET-1, temporary impacts on CDFW-regulated disturbed riparian habitat and unvegetated streambed would be restored to pre-Project contours. Compensatory mitigation would be required for permanent loss of wetlands and other waters to ensure that there would be no net loss of wetlands or other waters. The appropriate permit applications would be submitted to state and federal regulatory agencies, including USACE, CDFW, and RWQCB. The permits issued by these agencies would finalize the mitigation requirements for impacts on jurisdictional areas. No substantial adverse effects on wetland and other waters are anticipated to occur under Alternative 2 (Build Alternative).

2.25.20 Plant Species

This section covers construction impacts on non-listed special-status plant species. Listed (e.g., threatened or endangered) special-status plant species are discussed in Section 2.22. No non-listed special-status plant species were detected within the BSA. The Project may, however, have temporary impacts on unoccupied potentially suitable habitat for non-listed special-status plant species through the alteration or loss of habitat, such as mesa horkelia and Parry's spineflower. Unoccupied potentially suitable habitat would be affected by temporary construction activities required to provide adequate work space to construct the Project. In addition, minor indirect impacts may occur on non-listed special-status plants occurring outside the limits of disturbance and may consist of dust, erosion, introduction of invasive species on disturbed soils, and roadway runoff.

Implementation of Measures WQ-1 through WQ-3, described in Section 2.12, Water Quality and Storm Water Runoff, would require the implementation of standard BMPs as part of the Project in accordance with the SWPPP. In addition, as described in Section 2.24, Invasive Species, the Project would be required to comply with EO 13112 and Caltrans SSP 14.6-05. EO 13112 and Caltrans SSP 14.6-05 require that weed control be performed to minimize the introduction and spread of invasive species to and from the job site. With incorporation of BMPs into all phases of the Project in accordance with Caltrans policy and as outlined in Measures WQ-1 through WQ-3 and Measure NC-1, no substantial adverse effects on special-status plants are anticipated to occur during construction of Alternative 2 (Build Alternative).

2.25.21 Animal Species

This section covers construction impacts on non-listed special-status animal species. Listed (e.g., threatened or endangered) special-status animal species are discussed in Section 2.20. Temporary construction impacts on animal species are expected as a result of construction noise, light, vibration, dust, and human encroachment. Alternative 2 (Build Alternative) would result in temporary impacts on animal species, such as BUOWs, bats, migratory birds, and ground-dwelling mammals and reptiles, during construction, as described in Section 2.22, Animal Species. As outlined in Measure AS-2, described in Section 2.22, Animal Species, preconstruction surveys would be conducted to determine the presence of BUOWs within 500 feet of Project construction activities, and avoidance buffers would be established if BUOWs are found to ensure impacts on BUOW are minimized. As outlined in Measure AS-3, preconstruction surveys would also be conducted to determine the need for installation of exclusion devices to ensure that no bats are occupying these structures prior to and during construction. If bats are encountered during preconstruction surveys, Measure AS-4 would require the preparation and implementation of a bat management plan. Project impacts on nesting birds are primarily limited to the removal of trees and shrubs within the BSA.

However, all vegetation clearing and nest removal would be completed in accordance with Measure AS-1, and no substantial temporary effects on nesting birds are anticipated. In addition, Project effects on the loss of nesting trees and shrubs would be offset through replacement landscaping of trees and shrubs within the BSA, where feasible. In addition, with implementation of BMPs in accordance with Caltrans policy, no substantial adverse indirect effects on wildlife are expected as a result of the construction of Alternative 2 (Build Alternative).

2.25.22 Threatened and Endangered Species

Temporary construction impacts on threatened and/or endangered species may occur as a result of construction noise, light, vibration, dust, and human encroachment, as described in Section 2.23. Threatened and Endangered Species, Alternative 2 (Build Alternative) would result in potential temporary indirect impacts on Nevin's Barberry, CAGN, Swainson's hawk, SWFL, and LBVI. Implementation of Measures NC-2 through NC-4, as described in Section 2.19, Natural Communities, would require the implementation of standard BMPs aimed at preventing the spread of invasive species and providing temporary sediment control, soil stabilization, and the preservation of existing vegetation (as applicable). Measure AS-1, described in Section 2.22, Animal Species, requires that any native vegetation removal or tree trimming activities be conducted outside of the nesting bird season, while Measure TE-1 requires CAGN preconstruction surveys to ensure that CAGN, if present, are not affected during construction activities. In addition, Measure TE-2 requires SWFL and LBVI preconstruction surveys to ensure that SWFL and/or LBVI, if present, are not affected during construction activities. Furthermore, with incorporation of BMPs as outlined in Measures WQ-1, WQ-2, and NC-1, no substantial adverse effects on threatened or endangered plant species are anticipated to occur during construction of Alternative 2 (Build Alternative).

2.25.23 Invasive Species

Impacts related to invasive species are considered permanent impacts because the introduction of invasive species into previously undisturbed areas during construction would result in permanent impacts on the habitat rather than just a temporary impact that would cease when construction is complete, as described in Section 2.26, Cumulative Impacts. Therefore, no temporary impacts related to invasive species would occur as a result of construction of Alternative 2 (Build Alternative). Measure NC-2, as described in Section 2.19, Natural Communities, would be implemented during construction of Alternative 2 (Build Alternative) to address potential short-term construction effects associated with invasive species.

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2.26 Cumulative Impacts

2.26.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

2.26.2 Methodology

The methodology used in the cumulative impacts analysis for the Project was developed by following the eight-step process set forth in the Caltrans *Guidance for Preparers of Cumulative Impact Analysis* (Caltrans 2014). The eight-step process is comprised of the following actions:

1. Identify the resources to consider in the cumulative impacts analysis by gathering input from knowledgeable individuals and reliable information sources. This process is initiated during project scoping and continues throughout the NEPA/CEQA analysis.
2. Define the geographic boundary or resource study area for each resource to be addressed in the cumulative impacts analysis.
3. Describe the current health and historical context of each resource.

4. Identify the direct and indirect impacts of the proposed project that might contribute to a cumulative impact on the identified resources.
5. Identify a set of other current and reasonably foreseeable future actions or projects and their associated environmental impacts to include in the cumulative impacts analysis.
6. Assess cumulative impacts.
7. Report the results of the cumulative impacts analysis.
8. Assess the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact.

2.26.3 Resources Included in Cumulative Impact Analysis

As specified in the Caltrans *Guidance for Preparers of Cumulative Impact Analysis*, if the proposed project would not result in a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource. In addition, resources currently in poor or declining health should be considered in the cumulative impact analysis even if project impacts are not substantially adverse or less than significant.

The following discussion of potential cumulative impacts is presented by environmental resource area. A list of the reasonably foreseeable projects considered in this analysis is presented in Table 2.26-1. Twenty-three projects in the City of Yucaipa and two projects in the City of Calimesa are currently planned within the resource study areas of the Project. Based on available information, one of the related projects would be constructed concurrently with the Project; therefore, there is potential for cumulative temporary construction impacts resulting from the concurrent execution of multiple projects within the various cumulative study resource areas. There are 22 listed projects that do not have an identified construction schedule, which could also potentially overlap with the Project.

Table 2.26-1. Current Reasonably Foreseeable Projects Considered in Cumulative Impact Analysis

No.	Project	Jurisdiction	Overview	Status
1	Interstate 10 Pavement Project	City of Yucaipa, Caltrans	Placing asphalt concrete on the shoulders and reinforced concrete pavement on the freeway; removal and replacement of a barrier in the median; upgraded draining system; and guardrails, from west of the Live Oak Canyon Road Interchange east to the County Line Road undercrossing	Under construction, anticipated completion 2020
2	Interstate 10/Wildwood Canyon Road Interchange Project	City of Yucaipa, City of Calimesa, SBCTA, Caltrans	New interchange at I-10 and Wildwood Canyon Road interchange (PM R38.53) in the City of Yucaipa	Planning phase
3	Yucaipa Boulevard Street Improvements Phase I & Phase II	City of Yucaipa	Widening of Yucaipa Boulevard from four to six lanes; storm drain system; raised center median; new traffic signals; undergrounding of utility lines and removal of overhead utilities; utility poles and other utility work, such as utility vaults; and conduit	Construction completed 2019
4	6th Place at Wildwood Creek Low Water Crossing Replacement Project	City of Yucaipa	Channel improvements in Wildwood Creek, a maintenance ramp into the channel for the Flood Control District, street improvements at the bridge approaches, access improvements to the adjacent private properties, and underground storm drain systems to accommodate the proposed road profiles	Construction completed 2019

Table 2.26-1. Current Reasonably Foreseeable Projects Considered in Cumulative Impact Analysis

No.	Project	Jurisdiction	Overview	Status
5	County Line Road and Avenue H Sidewalk Project	City of Calimesa, City of Yucaipa	Construction of sidewalk, ADA compliant curb ramps and associated street improvements along the south side of Avenue H from 3rd Street to Holmes Street In addition, street pedestrian improvements along the north and south sides of County Line Road between 3rd Street and California Street in the Cities of Yucaipa and Calimesa	Construction completed 2019
6	Community Flex Park	City of Yucaipa	Develop 2.40 acres into a commercial flex park; four separate buildings (37,211 square feet upon build-out)	Planning
7	Eagle Housing Project	City of Yucaipa	Affordable senior housing complex (64 one-bedroom units and 32 two-bedroom units on 3.48-acre site)	Construction completed 2019
8	57 Unit Detached Condominium Project	City of Yucaipa	Fifty-seven-unit detached condominium project located near the corner of Avenue H and 4th Street	Approved
9	18 Apartment Units	City of Yucaipa	Eighteen apartment units on 2.46 acres	Under construction
10	14 Unit Multi-family Residential Project	City of Yucaipa	Fourteen-unit complex on 1.85 acre	Approved
11	68 Unit Detached Condo Project	City of Yucaipa	Detached condominium project with 68 units	Approved

Table 2.26-1. Current Reasonably Foreseeable Projects Considered in Cumulative Impact Analysis

No.	Project	Jurisdiction	Overview	Status
12	40 Condominium Detached Units	City of Yucaipa	Forty condominium detached units on 6.8 acres	Approved
13	33 Unit Detached Condo Housing Project	City of Yucaipa	Thirty-three-unit detached condominium housing project	Approved
14	21 Unit Housing Project	City of Yucaipa	Twenty-one-unit housing project 3.07 acres	Approved
15	26 Unit Detached Apartment Project	City of Yucaipa	Twenty-six-unit detached apartment project on 3 acres	Approved
16	Neighborhood Park	City of Yucaipa	Neighborhood park, development of a trailhead on a 5.1-acre parcel; construction of a 20-acre-foot pond and a 3,000-square-foot building for cultural resource displays and a 200-seat amphitheater	Planning
17	56 Condominiums	City of Yucaipa	Fifty-six condominiums at 32817 Avenue D on 9.07 acres	Proposed
18	Yucaipa Gateway Plaza	City of Yucaipa	Proposed commercial center, which involves replacing the existing bar and restaurant with fast food, fuel, and hotel; Phase II under plan development	Phased, partly constructed

Table 2.26-1. Current Reasonably Foreseeable Projects Considered in Cumulative Impact Analysis

No.	Project	Jurisdiction	Overview	Status
19	Sorenson Engineering Remodel	City of Yucaipa	Addition of a 4,200-square-foot warehouse, addition of a 700-square-foot office, new 20,000-square-foot building, modification of an existing administration parking lot	Approved
20	19 Condominium Units	City of Yucaipa	Nineteen condominium units on approximately 2.4 acres	Approved
21	Office Building and Garage/Storage Warehouse	City of Yucaipa	New office building and garage/storage warehouse	Phased, partly constructed
22	Golden State Glazing Buildings	City of Yucaipa	Two new buildings (2,400 square feet and 4,996 square feet)	Approved
23	I-10 Corridor Project	SBCTA, Caltrans, multiple cities	Approximately 33 miles of express lanes along the corridor in each direction from the Los Angeles County line to Redlands	Anticipated construction: 2020-2025

Sources: Caltrans 2019k; City of Yucaipa 2019; City of Calimesa 2012; SBCTA 2019

Notes:
ADA=Americans with Disabilities Act; Caltrans=California Department of Transportation; I-10=Interstate 10; No.=number; PM=Postmile; SBCTA=San Bernardino County Transportation Authority

Table 2.26-2 lists all resource areas included in the cumulative impact analysis that meet these criteria. Those identified as resulting in an individual impact, and, thus, included in the cumulative impact analysis are resources for which an adverse impact would occur after the incorporation of avoidance or minimization measures and before the implementation of any mitigation measures.

Table 2.26-2 also identifies the resource study area that corresponds to the cumulative analysis for each included resource. A cumulative impact analysis reviews the resources in the Project vicinity as a whole, and, as a result, the resource study areas in the context of the cumulative analysis are often different than the study areas defined in the preceding sections of the IS/EA.

Table 2.26-2. Resource Areas Included in Cumulative Impact Analysis

Resource Area	Reason Included in Cumulative Analysis	Resource Study Area
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Existing level of service for the upgrade is equal to or better than LOS D	Project limits within the I-10 corridor
Visual and Aesthetics	Temporary and permanent impacts on visual resources.	One-mile radius around the Project limits
Water Quality	Temporary and permanent impacts on the watershed	Santa Ana River hydrologic unit and the San Timoteo hydrologic sub-area
Paleontology	Potential for destruction or damage to paleontological resources	Properties within and immediately adjacent to the paleontological study area
Air Quality	SCAB is in nonattainment for federal and state criteria pollutants	The SCAB region is the resource study area for air quality
Noise	Temporary and permanent impacts on sensitive receptors	The entirety of the Project limits within the noise study area
Natural Communities	Temporary and permanent impacts on natural communities	Project limits within the BSA
Wetlands and Other Waters	Temporary and permanent impacts on federal and state jurisdictional waters	Jurisdictional delineated area
Animal Species	Temporary and permanent impacts on animal species	Project within the BSA
Threatened and Endangered Species	Temporary and permanent impacts on threatened and endangered species	Project within the BSA

Notes:

BSA=biological study area; I-10=Interstate 10; LOS=level of service; SCAB=South Coast Air Basin

2.26.4 Human Environment

2.26.4.1 Traffic and Transportation/Pedestrian and Bicycle Facilities

At the interstate level, I-10 stretches across the country from Los Angeles, California, to Jacksonville, Florida, serving as a major route in the southern U.S. for the transportation of good and services, which makes it an important corridor to the economy. Regionally, I-10 is a major arterial highway connecting Los Angeles County to the Riverside and San Bernardino Counties. As a result, it serves as the major regional highway for commuters to employment areas in Los Angeles County. The high volume of private automobile and truck users and elevation changes on the existing I-10 facilities within the Project limits result in actual collision rates higher than the average collision rates in the state, as shown in Table 1-1.

Construction activities associated with Alternative 2 (Build Alternative) would temporarily affect traffic on I-10. With this Project's and the I-10 Corridor Project's construction activities overlapping, the effects on traffic operations may not be limited to the Project limits but may spread to the western limits of the I-10 Corridor Project and the eastern limit of Alternative 2 (Build Alternative). Additionally, construction activities of the other reasonably foreseeable projects in the surrounding communities may temporarily generate traffic during construction activities. As discussed in Section 2.8, Traffic and Transportation/Pedestrian and Bike Facilities, construction activities would occur outside the AM and PM peak hours and during the nighttime. In addition, Caltrans would implement a TMP that would maintain local access to the on- and off-ramps, install an advance warning system to alert commuters and the California Trucking Association of upcoming construction activities, and direct vehicular traffic via alternative routes. Similar to Alternative 2 (Build Alternative), other projects are required to minimize and reduce impacts on traffic and transportation facilities during construction activities. With the implementation of the TMP, the Project's temporary impact on traffic would not be adverse. Therefore, the Project would not have a considerable contribution to an adverse cumulative impact on traffic and transportation.

Operation of Alternative 2 (Build Alternative) would result in a beneficial impact on traffic and transportation, and, therefore, the Project is not anticipated to result in substantial cumulative effects under NEPA or substantial cumulative impacts under CEQA related to traffic and transportation.

2.26.4.2 Visual and Aesthetics

The cumulative resource study area for aesthetics is considered to be a viewshed extending out an approximate one-mile radius from the proposed Project. Views are limited to adjacent slopes and the corridor itself with sight distances being reduced because of the adjacent hillsides. Areas adjacent to the Project are primarily rural and undeveloped, with little to no signage or lighting. The viewshed

opens up to the City of Yucaipa. Several of the related projects listed in Table 2.26-1 appear to occur within the Project viewshed.

In general, Alternative 2 (Build Alternative) would change the visual character of I-10 through the Project area from a smaller-scale highway to a slightly larger highway with more open views. The overall appearance of the corridor would remain consistent with its existing character as a transportation facility and distant vistas would remain intact; however, it would result in a more urbanized appearance. Project changes would not block scenic vistas and, in some cases, may make these views more available to motorists. The Project would not affect views of the surrounding mountains or valley floor or other scenic resources along a scenic highway. The Project would result in an overall moderate-low resource change to the Project area.

The more urbanized appearance from the wider roadway would remain; however, this change would not affect the overall aesthetic quality of the corridor or visual resources. The change also has the potential to be perceived as beneficial by highway users, as it allows for expanded views, opportunities for motorists to share their focus between navigating the roadway and corridor views, and/or improved commute time resulting in a positive travel experience.

Alternative 2 (Build Alternative) is not anticipated to result in substantial cumulative effects under NEPA or substantial cumulative impacts under CEQA related to visual and aesthetics.

2.26.5 Physical Environment

2.26.5.1 Water Quality

The cumulative resource study area for water quality includes the Santa Ana River hydrologic unit (801.0) and the San Timoteo hydrologic sub-area (801.61, 801.63, 801.66, and 801.67). Alternative 2 (Build Alternative) would permanently increase the area of paved, impermeable surfaces within the Project limits. This increase in impervious area would result in increased pollutant build-up and wash-off; a greater volume and rate of stormwater runoff could cause or contribute to erosion and off-site pollutant transport. The Project would create new slopes or modify existing ones, which would ensure control of surface drainage and minimize surface erosion. The new and modified slopes would also treat runoff by allowing an increased infiltration rate of stormwater flow over the sides of slopes onto ground surfaces treated with special soil amendment utilized for water infiltration.

Runoff would be minimized by the implementation of post-construction water quality BMPs required by the Caltrans Municipal Separate Storm Sewer System Permit. These BMPs, which are designed to handle Project runoff, in addition to the implementation of Measures WQ-1 through WQ-5**,** would sufficiently handle any off-site runoff that may occur and would remove the potential for adverse

cumulative effects related to surface runoff and water quality. The Project has a low potential to cause adverse water quality problems to surface waters or groundwater in the area.

The Project, in conjunction with other projects listed in Table 2.26-1, would contribute to an increase in impervious surfaces within the cumulative resource study area for water quality, which would result in an increase in stormwater runoff. However, the listed projects are subject to water quality rules and regulations and would be required to be developed in compliance with water quality regulations to avoid any impacts on water resources. Alternative 2 (Build Alternative) is not anticipated to adversely affect receiving waters within the cumulative resource study area for water resources and would not have cumulative impacts on water resource characteristics or beneficial uses. Therefore, the Project, when combined with other projects, would not result in substantial adverse cumulative effects related to water quality. Alternative 2 (Build Alternative) is not anticipated to result in substantial cumulative effects under NEPA or substantial cumulative impacts under CEQA related to water quality.

2.26.5.2 Paleontology

The cumulative resource study area for paleontological resources is located within the Yucaipa 7.5' USGS quadrangle, at the southeastern margin of the San Bernardino Basin. The Bunker Hill-San Timoteo Basin is a depositional basin receiving sediments from the San Bernardino Mountains to the north along with a system of southwest-flowing drainages. These alluvial fan deposits consist of clays, silts, sands, gravel, cobbles, and boulders. These are dated 1.8 million years and younger, and are underlain by pre-Tertiary age crystalline bedrock (Caltrans 2019l).

Within the Project area, there are geologic units with a high potential to contain significant nonrenewable paleontological resources. These geologic units include young alluvial valley deposits (Qya series), old alluvial valley deposits (Qoa), very old alluvial valley deposits (Qvoa), and nonmarine sandstone and conglomerate (QTstu). These geologic units range from 2,500 years to 1.8 million years old. Excavation within these geologic units would increase the potential to discover and damage significant paleontological resources.

Paleontological resources are considered important if they yield new data on fossil animals, their distribution and evolution, or other scientifically important information. Paleontological resources are, in general, always undergoing the effects of weathering, tectonic activity, and other formation processes, which put their integrity in a natural gradual state of decline over very large periods of time. Human impacts on paleontological resources have been limited because of a relative lack of development in the area; nevertheless, any past impacts are permanent. Because of the extensive nature of geologic units with high paleontological sensitivity in the study area, potential effects on

paleontological resources would be reduced through the implementation of Measures PAL-1 and PAL-2.

Other projects may contribute to cumulative impacts through possible further environmental degradation by requiring substantial subsurface excavation. Because paleontological resources are site-specific in nature, SBCTA would implement a Paleontological Mitigation Plan that would require monitoring and collecting resources to minimize adverse impacts in the event that construction activities uncover any paleontological resources. With implementation of monitoring and collection measures, the Project would not substantially contribute to cumulatively adverse impacts.

Alternative 2 (Build Alternative) is not anticipated to result in substantial cumulative effects under NEPA or substantial cumulative impacts under CEQA related to paleontological resources through implementation of Measures PAL-1 and PAL-2.

2.26.5.3 Air Quality

The cumulative resource study area for the purposes of air quality is the SCAB. SCAB is currently in federal extreme nonattainment for O_3 and nonattainment $PM_{2.5}$ standards. At the state level, SCAB is in nonattainment for O_3, $PM_{10,}$ and $PM_{2.5}$ standards.

Implementation of Alternative 2 (Build Alternative) would contribute criteria pollutant emissions to the area during Project construction and operation. A number of the individual projects described in Table 2.26-1, as well as other projects located throughout the air basin, may be under construction simultaneously with the Project. Depending on construction schedules and actual implementation of projects in SCAB, generation of fugitive dust and pollutant emissions during construction and operations would result in substantial short-term increases in air pollutants. However, each project would be required to comply with SCAQMD's standard construction measures.

The SCAQMD has prepared, and periodically updates, the SCAB's regional AQMP that sets forth a comprehensive and integrated program that will lead the SCAB into compliance with the federal and state air quality standards. The AQMP establishes the transportation conformity emissions budgets for which the area's RTP and FTIP must conform. As such, a transportation project that is properly identified in a conforming RTP and FTIP and adheres to all relevant SCAQMD rules and regulations (e.g., SCAQMD Rule 403) will be consistent with the region's AQMP.

The Project is listed in the 2020 RTP, which was found to conform by the SCAG Regional Council on May 7, 2020, and FHWA and FTA made a regional conformity determination finding on June 5, 2020. The Project is also included in the 2019 FTIP (Project ID: 20179901). The SCAG's 2019 FTIP was found to be conforming by FHWA and FTA on December 17, 2018.

Project-level air quality analysis demonstrated that the Project would not result in any significant air quality impacts. As discussed above, the Project would be consistent with the region's AQMP that is intended to bring the SCAB into attainment for all criteria pollutants. Furthermore, the Project would comply with all SCAQMD rules and regulations, including Rule 403 (Fugitive Dust Control) and Rule 1108 (Cutback Asphalt), during construction, as well as all other adopted AQMP emissions control measures to minimize impacts on local and regional air quality.

Cumulative projects listed in Table 2.25-1, which include residential, transportation, and industrial development, and general growth, would also contribute to additional mobile and stationary emission sources and would further degrade the local air quality, as well as the SCAB air quality. However, because these projects would be discretionary actions and subject to CEQA, they would be required to incorporate measures to reduce air quality impacts. In addition, any project located within the SCAB would be required to comply with SCAQMD rules and regulations to reduce potential emissions.

For the reasons identified above—Project-level emissions less than significant, Project consistent with AQMP, Project compliance with SCAQMD Rules, and the CEQA requirement that related projects mitigate impacts—Project emissions would not be cumulatively considerable during short-term construction or long-term operations.

2.26.5.4 Noise

Noise within and surrounding the Project limits is primarily generated by vehicles traveling on the freeway; local roads; and agriculture, commercial, and residential land uses. These sources contribute to the ambient noise along the I-10 corridor. The area along the Project limits is mostly suburban with some agriculture uses and open space between the City of Yucaipa and City of Calimesa. The freeway is likely the greatest contributor to the ambient noise in the area. Additional noises typical in this area may include emergency vehicle sirens and traffic. With the ongoing development and transportation infrastructure improvement trend in the cities and on I-10, there may also be a temporary increase in noise from construction activities.

Construction activities would temporarily increase the ambient noise levels in the Project area. The construction of the I-10 Corridor Project does not geographically overlap with Alternative 2 (Build Alternative) as it is west of the Project.

There are no reasonably foreseeable projects in the immediate vicinity of the Project area. Implementation of Caltrans Standard Specifications, compliance with applicable local noise standards, as well as the implementation of Measures N-1 through N-3 described in Section 2.17, Noise, would minimize the temporary noise effects of construction. Standard construction practices,

such as equipping sound-control devices on construction equipment, turning off idling equipment, and installing acoustic barriers around stationary construction noise sources, would ensure that noise impacts caused by construction would be short term and not adverse. Other projects in the area are required to adopt similar noise-reduction measures either as directed by Caltrans or as a result of local noise ordinances. Consequently, Alternative 2 (Build Alternative) is not anticipated to result in a considerable contribution to a cumulative impact on noise during construction. There would be no adverse cumulative impact under NEPA or CEQA.

Under Alternative 2 (Build Alternative), 30 modeled receptors in the Project area would approach or exceed the NAC. However, no receptors under Alternative 2 (Build Alternative) would experience a substantial increase in noise.

Under Alternative 2 (Build Alternative), receivers would experience up to a 3 dBA increase in noise levels when comparing the Existing Baseline Condition to the 2035 Build Condition. There would be up to a 1 dBA increase in noise levels when comparing the Future No-Build Condition compared with the Future Build Condition, and noise levels at most receptors would remain the same or decrease.

A 3 dBA change is the lowest level that is perceptible by the average human ear in an outdoor environment. Because the proposed Project setting is highly urbanized and because of the proximity of the receptors to the highway, the magnitude of the noise increase is not considered substantial and would not result in a significant noise impact under CEQA.

Operation of the land use foreseeable development projects would each be subject to comply with the city or county noise ordinances. Therefore, operation of Alternative 2 (Build Alternative) would not have a substantial adverse contribution to a cumulative impact on noise under NEPA or significant CEQA.

2.26.6 Biological Environment

2.26.6.1 Natural Communities

The resource study area used for assessing cumulative effects on natural communities is based on the BSA. Natural communities present within the resource study area include Disturbed Buckwheat Scrub, Disturbed Riparian Scrub, Unvegetated Wash, Disturbed/Ruderal, and Urban/Developed. Although some of these plant communities are degraded within the resource study area, these communities still provide important functions to wildlife in the region including wildlife movement, nesting habitat, cover/shelter, and live-in habitat for many species.

Alternative 2 (Build Alternative) would result in permanent and temporary impacts on these vegetation communities. Impacts include the direct, permanent removal and temporary removal of

vegetation associated with grading and fill activities, as well as habitat disturbance. Indirect impacts include potential degradation of habitat adjacent to the Project area associated with dust, increased risk of fire during construction activities, and introduction of invasive species.

Construction and operation of Alternative 2 (Build Alternative) is not expected to further alter any existing linkages or habitat connectivity functions within the resource study area. However, removal and degradation of these communities may continue as future projects are constructed, which may further limit the use of this habitat by wildlife in the resource area.

There is a potential for other projects within the resource study area to contribute to indirect cumulative impacts, but these indirect effects would not change the existing conditions at the Project site and would not be anticipated to result in substantial cumulative effects under NEPA or significant impacts under CEQA.

2.26.6.2 Wetlands and Other Waters

Within the cumulative resource study area, there are jurisdictional and non-jurisdictional wetland and other water features. Areas designated to be within the jurisdictional areas are subject to CWA Section 404 regulations, while non-jurisdictional areas are regulated by the California Fish and Game Code 1602. As discussed in Section 2.20, Wetlands and Other Waters, there is 0.19 acre of jurisdictional waters and 1.39 acre of non-jurisdictional areas, of which 0.45 acre is disturbed riparian areas. Because the cumulative resource study area is located within a relatively dry region, it has not historically had an abundance of wetlands and other waters.

Construction activities would result in temporary impacts on 0.07 acre of jurisdictional non-wetland waters of the U.S. and 0.40 acre of CDFW unvegetated streambed. No reasonable foreseeable project is within the delineated jurisdictional areas. Although there are no foreseeable projects within the delineated jurisdictional area, the potential for a cumulative impact is still present because of the limited occurrence of wetlands and other waters in the area. However, all temporary impacts are regulated by the federal and state agencies and, as such, require temporary impacts to be mitigated at a 1:1 ratio through an approved in-lieu program, mitigation bank, or restoration or enhancement. As such, the temporary effects on wetlands and waters under Alternative 2 (Build Alternative) would not have a considerable contribution to a substantially adverse cumulative impact on wetlands and other waters.

Alternative 2 (Build Alternative) would permanently impact 0.01 acre of USACE non-wetlands waters of the U.S. Within the CDFW jurisdiction, Alternative 2 (Build Alternative) would have a permanent impact on 0.05 acre of the unvegetated streambed and 0.03 acre of riparian vegetation.

Loss of waters of the U.S. would be less than 0.10 acre and would not include wetlands. Therefore, these effects would not be considered substantial, and no compensatory mitigation is proposed. As noted above, the CDFW-regulated disturbed riparian habitat that would be impacted consists of a relatively small isolated patch located immediately adjacent to I-10 and is dominated by non-native, invasive plant species. Based on the low function of this habitat, a compensatory mitigation ratio of 1:1 for permanent loss of CDFW jurisdiction is proposed, as identified in Measure WET-1. Measure WET-1 would also mitigate for Project impacts on waters regulated by RWQCB.

With the implementation of Measure WET-1, permanent impacts on wetlands and waters under Alternative 2 (Build Alternative) would not have a considerable contribution to a substantially adverse cumulative impact on wetlands and other waters under NEPA or CEQA.

2.26.6.3 Animal Species

The resource study area used for assessing cumulative effects on non-listed special-status animal species is based on the BSA. Alternative 2 (Build Alternative) would temporarily remove potentially suitable habitat for non-listed special-status animal species, including BUOW, migratory birds, and bat species. Construction of Alternative 2 (Build Alternative) has the potential for direct and indirect permanent and temporary impacts on these species. Impacts include vegetation/habitat removal and may result in injury to or death of species during vegetation removal and Project activities. Indirect impacts may include habitat avoidance due to construction-related noise, vibrations, dust, potential fuel spills from construction equipment, increased risk of fire, possible night lighting during construction, and activities of equipment or personnel outside designated construction areas.

Removal of potential habitat for these species is expected to continue as future projects are constructed in the region. However, because these species are still regionally common, and the degree of contribution to this impact would be limited, affecting only a small number of individuals (if at all), Alternative 2 (Build Alternative) would not make a cumulatively considerable contribution to the regional decline in these species.

The cumulative effects of Alternative 2 (Build Alternative), in combination with a foreseeable increase in traffic and roadway widening, may incrementally cause further impediment to wildlife movement and wildlife behavior near the Project limits and wildlife movement within drainages, culverts, and designated wildlife crossings. However, through participation in various resource agency (e.g., CDFW, USFWS) and local resource regulations, along with implementation of the avoidance, minimization, and mitigation measures identified, no substantial cumulative effects are anticipated to occur on present special-status species.

Alternative 2 (Build Alternative) is not anticipated to contribute to substantial cumulative impacts under NEPA or significant cumulative impacts under CEQA related to non-listed special status animals.

2.26.6.4 Threatened and Endangered Species

The resource study area used for assessing cumulative effects on threatened and endangered animal species is based on the BSA. There is marginally suitable habitat or foraging area for Nevin's Barberry, CAGN, Swainson's hawk, SWFL, and LBVI in the Project resource study area. Construction of Alternative 2 (Build Alternative) has the potential for direct and indirect permanent and temporary impacts on these species. Although the Project would permanently remove existing vegetation/habitat within the BSA, the vegetation/habitat removed is not considered marginally suitable. In addition, operational noise levels within the area are predicted to increase only slightly (1 dBA) over the next 46 years. If present, special status birds would be expected to adapt to a small change occurring over a long period of time. Therefore, no operational noise impacts are anticipated, if present during operations. As a result, no permanent direct or indirect adverse impacts are anticipated.

During construction, noise, vibration, dust, potential fuel spills from construction equipment, an increased risk of fire, the potential for presence of night lighting during construction, and activities of equipment or personnel outside designated construction areas may occur. As a result, threatened and endangered species may avoid these existing areas of marginally suitable habitat for foraging purposes. However, with the implementation of avoidance and minimization measures TE-1 and TE-2, potential temporary direct and indirect impacts on threatened and endangered species.

The cumulative effects of the Project, in combination with a foreseeable increase in traffic and other proposed projects, may incrementally cause further impediment to wildlife movement within drainages and culverts. Removal of potential habitat for these species is expected to continue as future projects are constructed in the region. However, through participation in various resource agency (e.g., CDFW, USFWS) and local resource regulations, along with implementation of the avoidance, minimization, and mitigation measures identified, no substantial direct or indirect cumulative effects are anticipated to occur on threatened and endangered species in the resource study area under NEPA or CEQA.

2.26.7 Avoidance, Minimization, and/or Mitigation Measures

The proposed Project includes avoidance, minimization, and mitigation measures for Project-specific impacts, which are summarized in Appendix D, Environmental Commitments Record. Because the avoidance, minimization, and/or mitigation measures included in Chapter 2 are expected to

substantially avoid and/or minimize the adverse effects of the proposed Project, and there are no existing resources in the area that have been substantially impacted by existing development, no substantial contribution to cumulative impacts is anticipated. Avoidance, minimization, and mitigation measures to reduce impacts from the other planned projects would be developed in coordination with the applicable CEQA and/or NEPA lead agencies and the resource agencies.

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3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

The proposed Project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed Project. In many cases, background studies performed in connection with the projects would indicate that there are no impacts on a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.2.1.1 CEQA Significance Determinations for Aesthetics

a) Less than Significant Impact

As discussed in Section 2.9, Visual and Aesthetics, the Project is not located within a designated state scenic highway, identified by the California Scenic Highway Mapping System (Caltrans 2011b), the *City of Yucaipa General Plan* (City of Yucaipa 2016) or the City of Calimesa *General Plan* (City of Calimesa 2014). Therefore, there are no scenic vistas within the Project limits, and no scenic resources would be impacted within state-designated scenic highways, as there are no state-designated highways within the Project limits.

Distant views of the San Bernardino Mountains are visible in portions of the Project limits and would be predominately preserved. Additionally, the City of Yucaipa identifies Wildwood Canyon Road, located immediately adjacent to the Project limits, as a locally designated scenic highway. However, impacts on Wildwood Canyon Road as a locally designated scenic highway would be considered minimal since the primary changes would occur under a separate project, the Caltrans I-10 Rehabilitation Project, where additional vegetation would be added and obstruct distracting elements from the existing view, to the south. Thus, it is anticipated that these improvements would enhance the experience of scenic highway users and neighboring users, and it is not anticipated that the Project would cause a substantial adverse effect on a scenic vista. Therefore, impacts are considered less than significant, and no mitigation is required.

b) Less than Significant Impact

The Project would result in minimal changes to the views from Wildwood Canyon Road, a locally designated scenic highway. The Caltrans I-10 Rehabilitation Project, a separate project that would occur within the Project ROW, would plant vegetation, including trees, along I-10. The vegetation planted under that project would obstruct the view from Wildwood Canyon Road to I-10, removing distracting elements from the views to the south. Thus, these improvements would enhance scenic highway users' and neighboring users' experiences.

Temporary construction impacts would be reduced through the implementation of City of Yucaipa's goals and policies and Caltrans Standard Construction Specifications, as outlined in Measure VIS-3. With the implementation of Measure VIS-3, the Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Therefore, impacts are considered less than significant, and no mitigation is required.

c) Less than Significant Impact

The Project is located in an undeveloped portion of Yucaipa and Calimesa predominately characterized by open space with a scattering of commercial, industrial, and residential uses. Temporary visual impacts as a result of the Project would include construction activities, equipment staging, truck hauling, excavation activity, and detour signage. However, these impacts are considered temporary and are anticipated to cease upon completion of construction after 16 months.

Therefore, the change to the visual resources and views, visual character, or quality of public views is considered minor and consistent with the existing setting. Therefore, impacts are considered less than significant, and no mitigation is required.

d) Less than Significant Impact

The area surrounding the Project limits is currently lit at night from passing vehicles, street lighting, traffic signals, freeway lighting, and the surrounding residential and commercial uses. The proposed Project, as discussed in Section 2.9, Visual and Aesthetics, may include lighting improvements along the existing highway corridor. Implementation of Measure VIS-1 would reduce any potential impacts related to an increase in light and glare during Project operation through the approval of a lighting plan that would be reviewed and approved by SBCTA, Caltrans, and the City of Yucaipa. Therefore, with the implementation of Measure VIS-1, the Project would not create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area. Thus, impacts are considered less than significant, and no mitigation is required.

3.2.2 Agriculture and Forest Resources

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and	☐	☐	☐	☒

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
Monitoring Program of the California Resources Agency, to non-agricultural use?				
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) 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?	☐	☐	☐	☒

3.2.2.1 CEQA Significance Determinations for Agriculture and Forest Resources

a), b), c), d) and e) No Impact

The majority of the Project limits are contained within Caltrans ROW with the exception of the staging areas identified along Outer 10 Highway Street, between Live Oak Canyon Road and 16th Street. These areas are designated for regional commercial and community industrial land uses and do not contain land designated for Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. According to farmland mapping (California Department of Conservation 2016a), there are no areas within the Project limits designated for Prime Farmland and Unique Farmland. According to Williamson Act mapping as provided by the California Department of Conservation (California Department of Conservation 2016b), there are no Williamson Act contracts in effect within or adjacent to the Project limits. Therefore, implementation of the Project would not conflict with

existing City of Yucaipa zoning for agricultural, use and the Project would not result in impacts related to the conversion of forestlands, farmlands, or timberlands to non-forest use, non-agricultural or non-timberland uses. No impacts are anticipated for this issue area, and no mitigation is required.

3.2.3 Air Quality

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.2.3.1 CEQA Significance Determinations for Air Quality

The Project is primarily located within San Bernardino County in the City of Yucaipa, with a portion of the Project located within Riverside County in the City of Calimesa, California. The Project is located in an area within SCAB, which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in the SCAB is administered by SCAQMD, a regional agency created for the SCAB.

a) Less than Significant Impact

A project would conflict with or obstruct implementation of a regional air quality plan if it would be inconsistent with the growth assumptions of the plan, in terms of population, employment, or regional growth in VMT. The Project is listed in the approved 2020-2045 RTP/SCS, which was found to conform by SCAG Regional Council on April 7, 2016, and FHWA and FTA made a regional conformity determination finding on June 1, 2016. The 2020 RTP was found to be conforming by FHWA on June 5, 2020. The Project is also included in the 2019 FTIP (Project ID: 20179901). The 2019 FTIP was determined to conform by FHWA and FTA on December 17, 2018. The Project design concept and scope is consistent with the Project description in the 2020 RTP, 2019 FTIP, and the "open to traffic" assumptions of the SCAG regional emissions analysis.

The 2016 AQMP adopted by SCAQMD provides policies and measures to guide local agencies in achieving federal and state air quality standards. To be consistent with the 2016 AQMP, the pollutants emitted from a project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality. However, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, a project is deemed consistent with the AQMP. As discussed in Response 3.2.3.1(b), the Project's construction and operational emissions would not exceed the SCAQMD's significance thresholds. Thus, the Project would not result in a conflict with or obstruct implementation of the 2016 AQMP. Therefore, impacts are considered less than significant, and no mitigation is required.

b) Less than Significant Impact

Temporary construction activities are anticipated to begin in 2021 and end in 2024. Daily pollutant emissions would vary based on the level of activity, specific operations, and prevailing weather operations. Short-term air quality degradation may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment also are anticipated and would include CO, NO_X, ROGs directly emitted particulate matter, which are broken down for regulatory purposes into PM_{10} and $PM_{2.5}$, and toxic air contaminants, such as DPM. The Project's construction emissions were estimated using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0. While the model was developed for Sacramento conditions in terms of fleet emission factors, silt loading, and other modeling assumptions, it is considered adequate for estimating road construction emissions by SCAQMD in its CEQA guidance and is used for that purpose in this analysis. The Project's peak daily construction-related emissions are provided in Table 3-1.

Table 3-1. Construction Emissions – Build Condition

	PM_{10} (pounds/day)	$PM_{2.5}$ (pounds/day)	CO (pounds/day)	NO_X (pounds/day)
Grubbing/land clearing	30.91	7.01	14.03	22.74
Grading/excavation	33.19	9.08	51.40	75.11
Drainage/utilities/sub-grade	31.87	7.80	33.09	41.14
Paving	1.03	0.84	20.76	22.15
Maximum daily or average daily	33.19	9.08	51.40	75.11
SCAQMD daily thresholds	150.00	55.00	550.00	100.00
Emissions exceed daily threshold?	No	No	No	No

Source: Caltrans 2020p, SCAQMD 2019

Notes:

CO=carbon monoxide; NO_X=nitrogen oxide; PM_{10}=particles of 10 micrometers or smaller; $PM_{2.5}$=particles of 2.5 micrometers or smaller; SCAQMD=South Coast Air Quality Management District

As shown in Table 3-1, Project construction emissions would not exceed the SCAQMD regional emissions daily significance thresholds. Furthermore, implementation of Measures AQ-1 through AQ-3 (provided in Section 2.16, Air Quality) would ensure construction-related air quality impacts would be minimized. Therefore, the Project's construction activities would result in less than significant impacts associated with a criteria pollutant.

For roadway improvement projects, regional emissions are a function of regional VMT and travel speeds. As such, the operational emissions analysis takes into account long-term changes in VMT and travel speeds expected to occur under the Project when compared with Alternative 1 (No-Build Alternative) (excluding the construction phase). Roadway capacity increases generally result in roadway network travel speed improvements and some trip redistributions.

As shown in Table 3-2, with the exception of PM_{10} in 2045, all of the future No-Build and Build Condition emissions are lower than the existing baseline. The reductions from the Existing Baseline Conditions are due to the gradual replacement of older vehicles with those that meet stricter emission standards and efficiencies. When compared with the No-Build Condition, the Build Condition would result in a minimal increase in emissions.

Table 3-2. Summary of Comparative Emissions Analysis

Scenario/Analysis Year	PM_{10} (pounds/day)	$PM_{2.5}$ (pounds/day)	CO (pounds/day)	NO_x (pounds/day)
Baseline (Existing Conditions) 2017	120.1	66.1	2,754.4	680.7
No-Build Condition 2025	108.7	48.6	1,552.6	306.5
Build Condition 2025	109.0	48.7	1,557.2	307.4
No-Build Condition 2045	121.0	52.2	1,202.6	273.9
Build Condition 2045	125.8	54.3	1,250.3	284.8

Source: Caltrans 2020p

Notes:

CO=carbon monoxide; CO_2e=carbon dioxide equivalent; NO_X=nitrogen oxide; PM_{10}=particles of 10 micrometers or smaller; $PM_{2.5}$=particles of 2.5 micrometers or smaller

The Project is located in a federal non-attainment area for $PM_{2.5}$ and an attainment/maintenance area for PM_{10} and CO. However, as discussed in Section 2.16, Air Quality, the Project would not cause or contribute to significant adverse air quality impacts on any new localized CO, $PM_{2.5}$, and/or PM_{10} violations or delay timely attainment of any NAAQS or any required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis). Therefore, impacts are considered less than significant, and no mitigation is required.

c) Less than Significant Impact

Sensitive land uses located immediately adjacent to the Project limits include residential uses (mobile homes and rural farmland properties with residential uses) and a religious center. The closest residential uses to the Project limits are located between Dunlap Boulevard and I-10, approximately 65 to 80 feet from the edge of shoulder of WB I-10. The largest residential development is a mobile home community (Hillcrest Mobile Estates), located north of Calimesa Boulevard near Wildwood Canyon Road, less than 100 feet from the edge of WB I-10. The closest religious center is located approximately 300 feet east of I-10 and near the intersection of Calimesa Boulevard and County Line Road. No other sensitive land use types are located immediately adjacent to the Project limits.

Construction emissions that would be generated by the Project would not exceed the SCAQMD regional emissions daily significance thresholds. Furthermore, implementation of Measures AQ-1 through AQ-3 (provided in Section 2.16, Air Quality) would minimize construction air quality

impacts on nearby sensitive receptors. Project construction would not expose sensitive receptors to substantial pollutant concentrations. Therefore, temporary impacts are considered less than significant, and no mitigation is required.

As discussed in Section 2.16, Air Quality, MSAT analysis indicates that a substantial decrease in MSAT emissions can be expected between the existing (2017) and future (2025 and 2045) No-Build Conditions. The reductions from the Existing Baseline Conditions are due to the gradual replacement of older vehicles with those that meet stricter emission standards and efficiencies. The decrease in MSAT emissions is prevalent throughout the highest priority MSATs and the analyzed alternatives. When compared with the No-Build Conditions, 2025 and 2045 Build Alternative MSAT emissions would remain unchanged or increase by 0.1 pounds per day. Thus, Alternative 1 (Build Alternative) would not have substantial adverse impacts with regard to MSAT. In addition, as discussed above, the Project would not significantly increase the regional criteria pollutant emissions or affect the CO or particulate matter concentrations. Therefore, permanent impacts are considered less than significant, and no mitigation is required.

d) Less than Significant Impact

The CARB Air Quality and Land Use Handbook identifies a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. During Project construction, odors could be generated from construction equipment exhaust and asphalt application. Compliance with SCAQMD Rule 402, which prohibits the discharge of air contaminants causing nuisance or annoyance, would ensure that odor emissions and their associated impacts would be minimized. Construction activities would be temporary, and any odors associated with construction equipment would be short term, intermittent in nature, and cease upon completion of the construction. Therefore, temporary impacts are considered less than significant, and no mitigation is required.

Project operation would not involve any odor-generating uses. Therefore, the Project would not result in other emissions, such as those leading to odors that would affect a substantial number of people. Therefore, permanent impacts are considered less than significant, and no mitigation is required.

3.2.4 Biological Resources

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.2.4.1 CEQA Significance Determinations for Biological Resources

a) Less than Significant Impact

Special-Status Plant Species

Special-status plants include those listed by USFWS as threatened, endangered, or candidates for listing by USFWS and CDFW, as well as those considered sensitive by CNPS CRPR Lists 1B, 2, and 3. The literature review indicated known occurrences of 41 special-status plant species within

the 9 USGS 7.5-minute quadrangles surrounding the BSA. Eight of these special-status plant species are federally and/or state-listed endangered, threatened, or candidate species.

Thirty-three non-listed special-status plant species have been recorded within the vicinity of the BSA. Of these, those with the potential to occur in the BSA include mesa horkelia (*Horkelia cuneata* var. *puberula*) and Parry's spineflower (*Chorizanthe parryi*). Both of these species have a low potential to occur in Disturbed Buckwheat Scrub habitat within the BSA. No special-status plants were observed within the BSA during the site visit in November 2017; however, the site visit was conducted outside of the blooming period for special-status plant species with the potential to occur in the BSA. There is no designated critical habitat in the BSA, and the BSA is located just outside of the USFWS' range map (USFWS 2009).

There is marginally suitable habitat that occurs in Disturbed Buckwheat Scrub for one of eight listed plant species, Nevin's barberry ([*Berberis nevinii*]; federal and state endangered). However, there is a low potential for this species to occur as soils in the area are likely too compacted to support growth.

Additionally, 33 non-listed special-status plant species have been recorded within the vicinity of the BSA. Of these, those with the potential to occur in the BSA include mesa horkelia (*Horkelia cuneata* var. *puberula*) and Parry's spineflower (*Chorizanthe parryi*). Both of these species also have a low potential to occur in Disturbed Buckwheat Scrub habitat within the BSA, and soils here may be too compacted to support this species, as well.

However, the Project may cause temporary impacts on unoccupied potentially suitable habitat for non-listed special-status plant species through the alteration or loss of habitat. Unoccupied potentially suitable habitat would be impacted by temporary construction activities required to provide adequate work space to construct the Project. In addition, minor indirect impacts may occur to non-listed special-status plants occurring outside the limits of disturbance and may consist of dust, erosion, introduction of invasive species on disturbed soils, and roadway runoff.

Implementation of Measures WQ-1 through WQ-5 would require the implementation of standard BMPs in accordance with the SWPPP. These BMPs include temporary sediment control, soil stabilization, and the preservation of existing vegetation, as applicable. In addition, as identified in Section 2.23, Invasive Species, the Project would be required to comply with EO 13112 and Caltrans' SP 20-1.03C. EO 13112 and Caltrans SP 20-1.03C require that weed control be performed to minimize the introduction and spread of invasive species to and from the job site. With incorporation of BMPs into all Project phases in accordance with Caltrans policy, as outlined in Measures WQ-1 through WQ-5 and Measure NC-1, impacts are considered less than significant, and no mitigation is required.

Special-Status Wildlife Species

Based on the literature review conducted for the Project, 13 of the 54 identified special-status animal species with the potential to occur on or within the vicinity of the BSA are federally and/or state-listed endangered, threatened species, candidates for listing, and/or CFP species. No federally listed endangered or threatened wildlife species were observed within the BSA during surveys; however, neither habitat assessments nor protocol surveys were conducted during the breeding season for the listed species. Four of the 13 listed wildlife species identified during the literature review have a low potential to occur within 500 feet of the BSA, as potentially suitable habitat was identified within the 500-foot ESA buffer. These species are CAGN (*Polioptila californica californica*), Swainson's hawk (*Buteo swainsoni*), SWFL (*Empidonax traillii extimus*), and LBVI (*Vireo bellii pusillus*). The BSA does not support suitable habitat or occurs outside of the geographical range to support any other listed wildlife species.

Habitat suitability assessments were also conducted during the November 2017 site visit for the following special-status California SSC species: BUOW (*Athene cunicularia*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), and western yellow bat (*Lasiurus xanthinus*). Eleven other non-listed special-status wildlife species known to occur within the Project vicinity were determined to have the potential for occurrence within the BSA, which include San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), Southern California legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis*), orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvillii*), southern rufous-crowned sparrow (*Aimophila ruficeps canescens*), white-tailed kite (*Elanus leucurus*), loggerhead shrike (*Lanius ludovicianus*), Bell's sage sparrow (*Artemisiospiza belli belli*), and ferruginous hawk (*Buteo regalis*). Within the BSA, suitable habitat to support species occurs in Disturbed Buckwheat Scrub, Disturbed Riparian Scrub, and Unvegetated Wash. None of these species were observed within the BSA during the site visit.

Coastal California Gnatcatcher

Within the BSA, potentially suitable habitat for CAGN occurs within the Disturbed Buckwheat Scrub habitat mapped in three small polygons adjacent to I-10 near the southern boundary of the Project, as shown in Section 2.21, Animal Species (Figure 2.21-1). These areas are disturbed and consist of approximately 40 percent cover of California buckwheat and California encelia (Encelia californica) with non-native grasses in the understory. The two polygons adjacent to EB I-10 appear to be restored habitat on the freeway cut slope. There is 1.16 acre of this low quality, potentially suitable habitat for CAGN within the BSA. No CAGN were detected by qualified field surveyors in or adjacent to the BSA during the site visit.

Due to the poor plant species and habitat structural diversity, the location of the BSA at the northern edge of the species' range, the distance from documented occurrences, fragmentation by heavily disturbed and urban cover type, and high levels of human activity within and immediately adjacent to the BSA, this habitat is unlikely to support breeding CAGN. No CAGN were detected by qualified field surveyors in or adjacent to the BSA during the site visit. Additionally, the BSA is not within any designated critical habitat for CAGN.

Although the Project is not expected to directly affect CAGN due to the low probability of occurrence in the BSA, should CAGN move into the BSA prior to construction, short-term increases in noise levels from Project construction could result in temporary impacts on CAGN if individuals are deterred from foraging or dispersing through the Disturbed Buckwheat habitat adjacent to the Project or if construction noise during the breeding season interferes with communication between breeding adults or between adults and juveniles, thereby reducing breeding productivity. Implementation of Measure TE-1 would minimize potential indirect impacts on CAGN by conducting 3 days of preconstruction surveys within 7 days of construction activities in areas within 500 feet of suitable CAGN habitat. If CAGN is identified within these areas, all construction activities would cease within 500 feet of CAGN observations, and additional noise mitigation measures would be implemented, as needed, to maintain noise levels of less than 60 dBA L_{eq} or baseline, whichever is greater, at the observation location. In addition, Section 7 consultation would be initiated with USFWS prior to conducting Project activities within 500 feet of CAGN observations.

As identified in Measure NC-1, Disturbed Buckwheat Scrub within the BSA would be identified as ESAs and, prior to construction, exclusionary fencing would be installed around all ESAs to prevent accidental encroachment into these areas. In addition, implementation of Measures NC-2 through NC-4 would require the implementation of standard BMPs aimed at preventing the spread of invasive species and providing temporary sediment control, soil stabilization, and the preservation of existing vegetation (such as Disturbed Buckwheat Scrub), as applicable. Measure AS-1 requires that any native vegetation removal or tree trimming activities be conducted outside of the nesting bird season, while Measure TE-1 requires CAGN preconstruction surveys to ensure that CAGN, if present, are not affected during construction activities. With implementation of Measures NC-1 through NC-4, Measure AS-1, and Measure TE-1, impacts are considered less than significant, and no mitigation is required.

Increases in operational noise levels could render the marginal CAGN habitat currently present within and adjacent to the BSA less suitable for this species. However, with Project implementation, operational noise levels are predicted to increase only slightly (1 dBA) over the next 46 years. If present, CAGN would be expected to adapt to such a small change occurring over a long period of

time. Therefore, no operational noise impacts are anticipated on CAGN. In addition, the Project would not result in any changes to lighting that would affect CAGN and no lighting impact would occur. No substantial permanent adverse effects on CAGN are anticipated to occur under the Project.

Swainson's Hawk

The BSA does not support suitable nesting habitat for Swainson's hawk, as it is well outside the known nesting range for this species and does not support suitable Swainson's hawk foraging or nesting habitat. However, Swainson's hawk may occur near the BSA as a migrant in spring and fall and could forage in open space adjacent to the BSA. Since this species can fly away from any disturbances associated with the Project, no negative impacts on this species are anticipated if it were to migrate through the BSA or adjacent areas. Therefore, it is anticipated that no impacts on this species would occur, and no mitigation is required.

Southwestern Willow Flycatcher

The nearest CNDDB documented occurrence of SWFL is located approximately 4.50 miles southwest of the BSA in a willow/mule fat thicket in San Timoteo Canyon (CNDDB; SWFL Occurrence #29). This occurrence is over 5 river miles away from the BSA and is separated from the BSA by areas of sparse riparian habitat with little to no understory that, at best, provide low quality foraging habitat.

The BSA does not support suitable SWFL foraging or nesting habitat. Disturbed Riparian Scrub habitat in Wilson Creek consists of non-native tree and shrub species dominated by tree of heaven and castor bean. However, SWFL may forage within 500 feet of the BSA during migration.

An approximately 0.15-acre patch of Riparian Scrub located adjacent to the BSA, within the 500-foot ESA buffer, consists of black willows, arroyo willow, and mule fat that could support SWFL foraging. The patch is small and isolated, and the mule fat does not contribute to a substantial understory that would allow for SWFL nesting. The Project would result in permanent loss of 0.03 acre of Disturbed Riparian Scrub habitat and temporary impacts on less than 0.01 acre of Disturbed Riparian Scrub, all of which consist of non-native species with dominants consisting of tree of heaven and castor bean. No willows or mule fat would be removed.

Two other small areas of suitable foraging habitat for SWFL were identified within the 500-foot ESA buffer. One of these areas is located north of I-10 and Calimesa Boulevard and consists entirely of mule fat scrub with no tree canopy. The other area is located near the southeastern edge of the BSA just south of County Line Road and consists of a small cluster of arroyo and black willows with no understory. Both of these areas are isolated from any documented SWFL occurrences or potential

SWFL nesting habitat. No suitable SWFL nesting habitat was identified within the 500-foot ESA buffer.

Should SWFL move into the BSA prior to construction, short-term increases in noise levels from Project construction could result in temporary impacts on SWFL if individuals are deterred from foraging or dispersing through the Disturbed Riparian Scrub habitat adjacent to the Project or if construction noise during the breeding season interferes with communication between breeding adults or between adults and juveniles, thereby reducing breeding productivity. Implementation of Measure TE-2 would minimize potential indirect impacts on SWFL through preconstruction surveys conducted within 7 days of construction activities in areas within 500 feet of suitable SWFL habitat. If SWFL is identified within these areas, all construction activities would cease within 500 feet of SWFL observations, and additional noise mitigation measures would be implemented, as needed, to maintain noise levels of less than 60 dBA L_{eq} or baseline, whichever is greater, at the observation location. In addition, Section 7 consultation would be initiated with USFWS prior to conducting Project activities within 500 feet of the SWFL observation.

With implementation of Measures NC-1 through NC-4, Measure AS-1, and Measure TE-2, impacts are considered less than significant, and no mitigation is required.

Least Bell's Vireo

The nearest CNDDB documented occurrence of LBVI is located approximately 4.50 miles southwest of the BSA in a willow/mule fat thicket in San Timoteo Canyon (CNDDB; LBVI Occurrence #268). This occurrence is over 5 river miles away from the BSA and is separated from the BSA by areas of sparse riparian habitat with little to no understory that, at best, provide low quality foraging habitat.

The BSA does not support any suitable LBVI foraging or nesting habitat. Disturbed Riparian Scrub habitat in Wilson Creek consists of non-native tree and shrub species dominated by tree of heaven and castor bean. No suitable nesting habitat for LBVI occurs within the BSA.

An approximately 0.15-acre patch of Riparian Scrub located adjacent to the BSA, within the 500-foot ESA buffer, consists of black willows, arroyo willow, and mule fat that could support LBVI foraging. The patch is small and isolated, and the mule fat does not contribute to a substantial understory that would allow for LBVI nesting. As stated above, the Project would result in permanent loss of 0.03 acre of Disturbed Riparian Scrub habitat and temporary impacts on less than 0.01 acre of Disturbed Riparian Scrub, all of which consists of non-native species with dominants consisting of tree of heaven and castor bean. No willows or mule fat would be removed.

Two other small areas of suitable foraging habitat for LBVI were identified within the 500-foot ESA buffer. One of these areas is located north of I-10 and Calimesa Boulevard and consists entirely of

mule fat scrub with no tree canopy. The other area is located near the southeastern edge of the BSA just south of County Line Road and consists of a small cluster of arroyo and black willows with no understory. Both of these areas are isolated from any documented LBVI occurrences or potential LBVI nesting habitat. No suitable LBVI nesting habitat was identified within the 500-foot ESA buffer.

If LBVI occupy suitable habitat identified within the 500-foot ESA buffer, the Project could potentially result in indirect impacts on foraging activities as a result of temporarily increased noise and activity levels. It is anticipated that noise impacts on LBVI foraging habitat would not be elevated to a level that would cause disruption of foraging for the entire 500-foot ESA buffer. Implementation of Measure TE-2 would minimize potential indirect impacts on LBVI through preconstruction surveys conducted within 7 days of construction activities in areas within 500 feet of suitable LBVI habitat. If LBVI is identified within these areas, all construction activities would cease within 500 feet of LBVI observations, and additional noise mitigation measures would be implemented, as needed, to maintain noise levels of less than 60 dBA L_{eq} or baseline, whichever is greater, at the observation location. In addition, Section 7 consultation would be initiated with USFWS prior to conducting Project activities within 500 feet of LBVI observations.

With implementation of Measures NC-1 through NC-4, Measure AS-1, and Measure TE-2, impacts are considered less than significant, and no mitigation is required.

Burrowing Owls

A habitat suitability assessment was conducted for BUOW at the time of the general site visit. Areas mapped as Disturbed Habitat are not suitable for BUOW due to a high density of vegetation cover, largely comprised of Russian thistle. Suitable BUOW habitat was identified within the 500-foot ESA buffer surveyed as part of the habitat suitability assessment adjacent to much of the BSA, including staging areas. Therefore, although the Project is not expected to directly affect any BUOWs due to the low probability of occurrence in the BSA, the Project could result in temporary impacts on BUOWs through the reduction in the quality of foraging habitat during construction. Temporary impacts are expected as a result of noise, vibration, dust, and human encroachment in areas adjacent to suitable BUOW habitat. No permanent impacts on BUOW burrowing or foraging habitat are expected because permanent modifications would only occur within the I-10 median.

As outlined in Measure AS-2, preconstruction surveys would be conducted to determine the presence of BUOWs within 500 feet of Project construction activities, and avoidance buffers would be established if BUOWs are found to ensure impacts on BUOW are minimized. With implementation of Measure AS-2, impacts are considered less than significant, and no mitigation is required.

Bats

Special-status bat species with the potential to occur in the BSA include pallid bat, western mastiff bat, and western yellow bat. Bats are known to use features in highway bridges, such as expansion joints, crevices, or areas sheltered by bridge support beams, as daytime and nighttime roosts. There are several bridges in the BSA that provide potential habitat for roosting bats. The bridges each have one crevice that could support daytime roosts and are adjacent to a small amount of riparian vegetation that could be used for foraging. Therefore, there is potential for the I-10 bridges over Wilson Creek to be used as night roosts. Potential bat habitat was also observed in both the Wildwood Creek and Yucaipa Creek culverts under I-10, and trees within the BSA have potential to be used as night roosts while foraging. The rest of the bridges within the BSA were not assessed for potential bat roosting habitat as all Project activities would be within the paved areas on the roadway above the bridges.

Although signs of bat presence (e.g., bat guano) were not observed during the daytime habitat assessments, bats could move into the area prior to construction. Should bats be roosting at any of these structures during construction, construction noise, lighting, exhaust, and vibration could temporarily disrupt bat roosting. Similarly, geotechnical boring within Wilson Creek could result in indirect impacts on bats roosting in the bridges over the creek if bats roost in this bridge at the time of boring activities. Once the Project is constructed, the widening and modification of the I-10 bridges over Wilson Creek would increase future potential roosting habitat by providing more roosting crevices. Therefore, no permanent impacts on bat roosting habitat are anticipated.

An emergent/nighttime survey to determine the presence of bats was not conducted, but is recommended prior to construction to determine whether the areas that provide suitable habitat are occupied by bats. Additionally, surveys during the bat maternity season and preconstruction surveys are recommended if signs of bats are present. As outlined in Measure AS-3, these preconstruction surveys would be conducted to determine the need for installation of exclusion devices to ensure that no bats are occupying these structures prior to and during construction. If bats are encountered during preconstruction surveys, Measure AS-4 would require the preparation and implementation of a bat management plan. With implementation of Measures AS-3 and AS-4, impacts on bats are considered less than significant, and no mitigation is required.

Nesting Birds

No raptor nests or other nests in trees or shrubs were observed during biological surveys, indicating that these resources may be less suitable for nesting than other resources located outside the BSA and farther away from I-10. However, there is still a potential that raptors and migratory birds nesting within the BSA could be affected by vegetation removal and/or proximity to construction activities.

Temporary impacts include increased noise and vibration, removal of trees and shrubs, or increased dust on vegetation from construction that may result in an alteration in bird behavior, which includes the potential to abandon or alter nests and nest locations, loss of young, or reduced health and vigor of eggs and/or nestlings. Permanent impacts from loss of vegetation communities are limited to the removal of 0.03 acre of Disturbed Riparian Scrub habitat associated with constructing new bridge piers in Wilson Creek; this habitat is comprised of non-native, invasive plant species that do not provide substantial value as nesting or foraging habitat.

Implementation of Measure AS-1 would require that any native vegetation removal or tree trimming activities occur outside of the bird nesting season and preconstruction survey be conducted during the nesting season. Additionally, the loss of this vegetation would not be considered a substantial permanent impact on nesting birds as 0.43 acre of this habitat would remain in the BSA and be protected from disturbance with implementation of Measure NC-1. With the implementation of Measures AS-1 and NC-1, impacts are considered less than significant, and no mitigation is required.

Other Special-Status Wildlife Species

As stated above, within the BSA, suitable habitat to support special-status animal species occurs in Disturbed Buckwheat Scrub, Disturbed Riparian Scrub, and Unvegetated Wash. However, none of the species listed in Table 2.21-1, in Section 2.21, Animal Species, were observed within the BSA during the site visit.

Temporary impacts on other special-status animal species would include a temporary loss of habitat, including trees and shrubs used for nesting and burrows used by ground-dwelling mammals and reptiles. Species that are relatively mobile (e.g., birds and many small mammals and reptiles) would likely disperse into nearby areas during construction. Some mortality of less mobile and burrowing species may occur. Temporary impacts would be limited to the construction period and include increased noise levels and increased human disturbance. Temporary impacts on wildlife present outside of the BSA could also result from impacts on water quality during construction. Permanent indirect impacts of the Project on special-status wildlife species in areas adjacent to the Project footprint could result from the introduction or spread of invasive plant species, fire, human encroachment, and pollutants associated with vehicle use once the Project has been constructed.

All vegetation clearing and nest removal would be completed in accordance with Measure AS-1 and protected from disturbance with implementation of Measure NC-1 during construction. Temporary construction impacts on water quality would be minimized through implementation of BMPs in accordance with the SWPPP and Caltrans policy, as outlined in Measures WQ-1 through WQ-5. With implementation of BMPs in accordance with Caltrans policy and Measures NC-2 and NC-3, no

permanent impacts on special-status wildlife species would occur. Therefore, impacts are considered less than significant, and no mitigation is required.

b) Less than Significant Impact

There is no designated critical habitat within the BSA, and the BSA is located just outside of the USFWS' range map, as discussed in Section 2.22, Threatened and Endangered Species. As discussed in Section 2.18, Natural Communities, the BSA supports five different vegetation communities or other land cover types, with the predominant land cover identified as Urban/Developed. Urban/Developed, Disturbed/Ruderal, and Disturbed Buckwheat Scrub occur in the areas immediately adjacent to the I-10 corridor, with small patches of Disturbed Riparian Scrub located in Wilson Creek. Wilson Creek and Wildwood Wash support areas mapped as Unvegetated Wash. Of the vegetation communities identified within the BSA, Disturbed Buckwheat Scrub and Disturbed Riparian Scrub are considered sensitive. Many rare and endangered species occur in coastal scrub and associated plant communities. Consequently, degradation and displacement of coastal scrub has also resulted in substantial habitat loss for a variety of animal species. Therefore, coastal scrub is considered a sensitive natural community by CDFW and USFWS.

The BSA supports 1.16 acre of Disturbed Buckwheat Scrub, which occurs in small, isolated patches on slopes adjacent to I-10. The Project would not result in any temporary or permanent impacts on Disturbed Buckwheat Scrub.

The BSA supports 0.46 acre of Disturbed Riparian Scrub occurring in Wilson Creek. Proposed access during the bridge widening would occur through the I-10 median, resulting in fewer impacts on riparian habitat. Additionally, the proposed staging areas located on the south side of the I-10 EB off-ramp at Live Oak Canyon Road are not anticipated to have direct access to Wilson Creek. However, Project construction would result in a temporary impact of 0.01 acre of Disturbed Riparian Scrub as a result of equipment access and work areas needed to construct new bridge piers in Wilson Creek and a permanent loss of 0.03 acre of Disturbed Riparian Scrub as a result of constructing new bridge piers in Wilson Creek. Measures NC-1 through NC-4 would be implemented to avoid and/or minimize potential temporary and permanent impacts on Disturbed Riparian Scrub. Therefore, impacts are considered less than significant, and no mitigation is required.

c) No Impact

As described in Section 2.19, Wetlands and Other Waters, all channelized flows from the JSA eventually discharge into San Timoteo Wash, which is tributary to the Santa Ana River. Portions of the Santa Ana River are considered traditional navigable waters due to tidal influences at its mouth, approximately 62 river miles from the JSA. Since features within the JSA are tributary to a traditional

navigable water, USACE has jurisdiction under Section 404 of the CWA. The two non-wetland features potentially subject to USACE jurisdiction include Wilson Creek and Wildwood Wash. However, neither of the features within the JSA exhibits wetland hydrology or a predominance of hydrophytes suggesting the presence of wetlands. Therefore, no soil pits or wetland data sheets were conducted for the Project. No impact is identified for this issue area, and no mitigation is required.

d) Less than Significant Impact

Wildlife movement corridors, also called dispersal corridors or landscape linkages, are linear features primarily connecting at least two substantial habitat areas. According to the *City of Yucaipa General Plan* (City of Yucaipa 2016), there are potential local wildlife linkages associated with Wilson Creek and Wildwood Wash that cross the Project limits. As creek beds, these potential wildlife linkages could be used for local travel routes for wildlife to resources (food, water, cover) and provide important habitat connectivity between the San Bernardino Mountains to the north and San Gorgonio Wilderness to the south. Furthermore, aside from providing water and foraging and nesting habitat, riparian communities provide habitat to many species of plants and wildlife and often occur along corridors that provide open space and movement for wildlife in otherwise developed areas. Therefore, with the presence of Disturbed Riparian Scrub, there is potential that the areas identified within the Project limits could provide or support movement of wildlife.

Impacts on Wilson Creek would result from geotechnical borings and placement of new bridge footings to support widening of the bridge over Wilson Creek. These activities would result in temporary disturbance of Wilson Creek as a wildlife movement corridor and permanent loss of a small amount of space within Wilson Creek as a result of bridge pier placement. However, bridge piers would be located adjacent to existing bridge piers, would not reduce the width of existing wildlife crossing area, and would not result in permanent loss of this space for wildlife movement.

A previous project within the same area as the Project was required by USACE to construct a series of migratory ramps to provide wildlife access across Wildwood Wash and adjacent to EB I-10. However, the Project would not result in any permanent impacts on Wildwood Wash or the existing wildlife access structure and would not result in any permanent restriction of wildlife movement within Wildwood Wash. Furthermore, the BSA is not located within any areas defined by the Western Riverside MSHCP (Dudek and Associates, Inc. 2003) as a core or linkage and does not include native wildlife nursery sites. The Project would not permanently impact any connection of the BSA to adjacent open space areas, and no reduction of wildlife movement corridors within the BSA is anticipated.

With implementation of Measures NC-1 through NC-4 and Measure AS-1, impacts on wildlife movement would be minimized. Therefore, impacts are considered less than significant, and no mitigation is required.

e) Less than Significant Impact

The Project is located within an existing transportation corridor, and proposed improvements are limited to the existing ROW. Thus, the Project would not conflict with applicable goals of the Parks, Recreation, Trails, and Open Space Chapter of the *City of Yucaipa General Plan*.

In addition to the goals and policies of the *City of Yucaipa General Plan*, the Yucaipa Municipal Code, Division 9 Plant Protection and Management sets regulations and guidelines for the management of plant resources (City of Yucaipa 2019i). Specifically, Section 89.0515(a) of the Yucaipa Municipal Code Division 9 states that a permit is required for the removal of any oak tree. Project construction would require removal of trees and other vegetation in the ROW. Tree and vegetation removal on public lands would comply with City and Caltrans landscaping policies, as provided in Measure VIS-2 in Section 2.9, Visual and Aesthetics. As identified in Measure VIS-2, any trees removed that were planted as a part of the Caltrans Rehabilitation Project would be replaced at a ratio, size, and location determined by the District Landscape Architect. Thus, the Project would not conflict with the Yucaipa Municipal Code regarding tree and vegetation removal. With adherence to regulations contained within the Yucaipa Municipal Code Division 9 and implementation of Measure VIS-2, the Project would not conflict with any local policies or ordinances protecting biological resources. Therefore, impacts are considered less than significant, and no mitigation is required.

f) No Impact

The Western Riverside MSHCP, adopted June 17, 2003, is only applicable to the portion of the Project located within Riverside County, or within the sphere of the Western Riverside County MSHCP, and would serve as the Habitat Conservation Plan for the Project limits that extend into the City of Calimesa. However, as stated previously, the Project is located within an existing transportation corridor, and proposed improvements are limited to within existing ROW. Therefore, the Project would not conflict with the provisions of the adopted MSHCP. Additionally, as identified in the Environmental Conservation Online System database for Habitat Conservation Plans (USFWS n.d.), there are no adopted habitat conservation plans, natural community conservation plans, or other state habitat conservation plans that have been adopted for the Project limits. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

3.2.5 Cultural Resources

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

3.2.5.1 CEQA Significance Determinations for Cultural Resources

a), b), and c) No Impact

As discussed in Section 2.10, Cultural Resources, a review of cultural records, literature review, and an archaeological pedestrian survey for the staging areas was conducted by qualified archeologists. The records search involved consulting the SCCIC of the CHRIS housed at the California State University, Fullerton; the CHRIS's EIC at the University of California, Riverside; and numerous other archival and literary resources.

The CHRIS staff conducted a cultural records search and literature review at the SCCIC on October 18, 2017, and at the EIC on September 28, 2017. The record search covered the APE with a 1-mile-wide buffer. The search indicated that 81 cultural resources studies have been conducted within 1 mile of the APE since 1955. Of these 81 cultural resources studies, 3 involved portions of the APE, resulting in approximately 60 percent of the APE having been previously surveyed.

A total of 43 previously recorded cultural resources within 1 mile of the APE were identified from the 3 studies, which included 12 prehistoric archaeological sites, 12 historical archaeological sites, 2 sites containing both prehistoric and historical artifacts, 3 isolated artifacts, and 14 built environment resources. None of these previously documented resources were reported within the APE.

Geological and archaeological data indicate undisturbed sediments within the APE have a low sensitivity for intact and significant buried archaeological resources. While the majority of construction activities would not extend into native soils, Project-specific design elements such as

the geotechnical boreholes adjacent to the Oak Glen Creek Bridges were examined to assess whether they would result in additional disturbances to intact native soils. The findings of this analysis indicate that the sediments in this area have low sensitivity for intact and significant buried archaeological resources. Therefore, there is little to no potential for encountering intact and significant subsurface cultural deposits during construction.

Although the Project is not anticipated to impact archaeological resources or historic properties, construction activities, such as excavating and the drilling of geotechnical borings, have the potential to inadvertently discover unknown archeological resources. The implementation of Measure CR-1 would reduce the likelihood of significant impacts related to temporary impacts associated with cultural resources discovered during construction under the Project. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

As discussed in Section 2.10, Cultural Resources, while no human remains have been identified within the APE or Project limits, the potential exists when ground-disturbing activities occur. Implementation of Measure CR-2 would minimize any potential disturbance to human remains that may be discovered during Project construction. With the implementation of Measure CR-2, no impacts are anticipated for this issue area, and no mitigation is required.

3.2.6 Energy

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.2.6.1 CEQA Significance Determinations for Energy

a) Less than Significant Impact

The Project is a transportation improvement project that would extend the EB TCL on I-10. The following analysis determines if the Project would result in a demand for energy that would exceed the current supply or cause a substantial increase in the rate of energy use. The energy analysis

addresses both direct and indirect energy consumption. Direct energy refers to transportation-related energy use, such as fuel consumed by vehicles traveling within the Project limits.

For the below analysis, the following metrics are considered with regard to direct energy consumption:

- Number of vehicles served by the study network
- Average delay per vehicle
- Total VHD

Direct Energy (Operational)

As shown in Table 2.8-2 and discussed in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, 3,625 vehicles are currently served in the AM peak period, and 5,997 vehicles are currently served in the PM peak period along EB I-10 within the Project limits. In addition, VHD is 12.9 hours in the AM peak period and 46.2 hours in the PM peak period, with regard to the existing number of vehicles served on EB I-10 within the Project limits. There is a substantially higher volume of vehicles served in the existing PM peak period, and total delay experienced during the PM peak period is three and a half times greater than the AM peak period. Thus, the following analysis of transportation-related energy in Opening Year (2025) and Design Year (2045) focuses on future conditions in the PM peak period.

Table 3-3 provides metrics associated with direct energy consumption by vehicles on EB I-10 in Opening Year (2025) and Design Year (2045) for Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative).

Table 3-3. Traffic Performance Metrics – PM Peak Period

Performance Measure	Opening Year (2025)			Design Year (2045)		
	Alternative 1 (No-Build Alternative)	Alternative 2 (Build Alternative)	Change (% Change)	Alternative 1 (No-Build Alternative)	Alternative 2 (Build Alternative)	Change (% Change)
Volume served	6,350	6,762	**412** (+6.5%)	7,411	7,700	**289** (+3.9%)
Average delay per vehicle (seconds)	32.1	24.3	**-8** (-25.0%)	141.6	37.1	**-105** (-74.0%)
Total delay (VHD) (hours)	56.6	45.6	**-11** (-19.0%)	291.6	79.3	**-212** (-73.0%)

Source: Caltrans 2018c

Notes:

VHD=vehicle-hours of delay

As shown in Table 3-3, average delay per vehicle is reduced by 25 percent (Alternative 1 [Build Alternative] versus Alternative 2 [No-Build Alternative]) in the Opening Year and by 74 percent in the Design Year. As a result, lower levels of congestion are indicated by total delay hours under the Build Condition compared with the No-Build Condition in both Opening and Design Years. As the Project would reduce bottle-necking within the Project limits, the total number of vehicle served increases by 6.5 percent in 2025 and by 3.9 percent in 2045. Therefore, due to significant operational improvements along the I-10 corridor with Project implementation, the Project would improve travel time for trucks and other slow-moving vehicles and, therefore, reduce delay per vehicle and VHD. Thus, permanent impacts are considered less than significant, and no mitigation is required.

Long-term operational, direct energy impacts would occur if a project would place a substantial demand on the regional energy supply or require substantial additional capacity, or considerably increase peak and base period demand on various energy sources. The Project does not include construction of any new buildings that would consume energy. Any additional lighting fixtures provided by the Project would use energy-efficient bulbs and fixtures. Although the Project may result in additional lighting and traffic and crossing signals, the use of energy would be minimal and not impact local energy resources. Therefore, permanent impacts are considered less than significant, and no mitigation is required.

Indirect Energy

Indirect energy refers to energy required for construction activities and maintenance of the Project.

Construction

The Project would not demolish or construct any new buildings. Project construction would involve the one-time energy expenditure to construct roadway and facilities, as well as replace barriers, including the following components:

- Construction of one lane in the existing median
- Replacement of existing dual metal thrie beam barrier with a concrete barrier at the new centerline throughout joining the existing concrete barriers
- Construction of upgraded existing drainage facilities
- Construction of widened median of Oak Glen Creek Bridge

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. Construction activities would involve the use of construction equipment with gasoline and diesel-powered engines. The Project's construction emissions were estimated using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0. Default equipment assumptions for the Road Construction Emissions Model were used in developing the emissions estimates. The emissions associated with the construction activities are listed in Table 2.16-4 and discussed in Section 2.16, Air Quality.

The grading and excavation phase during construction would result in maximum daily construction emissions and, thus, would be the most energy intensive. Energy use for Project construction is estimated to result in the short-term consumption of approximately 373,950 gallons of fuel from construction equipment. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary, and demand for fuel would have no noticeable effect on peak or baseline demands for energy.

Construction activities are expected to increase traffic congestion in the area. Measure AQ-3, provided in Section 2.16, Air Quality, would ensure, to the extent feasible, that construction traffic be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. In addition, a TMP, as recommended by Measure TR-1 in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, would be implemented

during construction to minimize any temporary disruptions to circulation. The TMP would involve public notification of the upcoming construction work and traffic management during construction activities.

Implementation of Measures AQ-3 and TR-1 would ensure energy impacts during construction would be minimized. Therefore, temporary impacts are considered less than significant, and no mitigation is required.

Maintenance

All Project work would occur within existing Caltrans ROW with the exception of select potential staging areas. Maintenance within the Project limits would involve roadway maintenance including pavement, roadside litter/sweeping, and signs and markers. Energy-use associated with ongoing maintenance activities on I-10 would be minimal compared with energy use by vehicles served within the Project limits. In addition, this expenditure would be balanced by the improved operational efficiency of the I-10 corridor within the Project limits over the design life of the Project. Therefore, impacts are considered less than significant, and no mitigation is required.

With regard to Project construction and maintenance, the Project would not result in significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, impacts are considered less than significant, and no mitigation is required.

b) No Impact

State and Regional

As discussed in Section 3.4.1.2, state policies regarding transportation energy include the Low Carbon Fuel Standard (LCFS) and the California Transportation Plan (CTP). The LCFS requires the carbon-intensity of California's transportation fuel to be reduced by at least 10 percent by 2020. The CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. One of the purposes of the Project is to improve traffic operations along I-10 within the Project limits. As the Project would enhance efficiency with the addition of a TCL, implementation of the Project would support state plans and policies associated with vehicle fuel-efficiency standards. With regard to state renewable energy targets, as discussed in Section 3.4.7.1, the state has set a goal of increasing renewable electricity production to 50 percent by 2030. The Project would not impact electricity generation and would consume minimal electricity during operation. Thus, the Project would not conflict with or obstruct the state's renewable energy policy. Thus, the Project would not conflict with state policies regarding vehicle efficiency and renewable energy.

Local

The Project is located in the City of Yucaipa in San Bernardino County and City of Calimesa in Riverside County and is included in the 2019 FTIP and the SCAG 2020-2045 RTP/SCS for San Bernardino County as Project ID: 20179901. As the 2020-2045 RTP/SCS seeks to improve mobility and accessibility in the region, the Project would be consistent with this plan as it would improve operational efficiency on I-10 within the Project limits. Thus, the Project would not conflict with applicable regional plans regarding energy.

The City of Yucaipa is included in the *San Bernardino County Regional Greenhouse Gas Reduction Plan*, which states that on-road transportation contributes 35 percent of the region's GHG emissions (San Bernardino Associated Governments [SANBAG] 2014). The City of Yucaipa selected a goal to reduce its community GHG emissions to a level that is 15 percent below its 2008 GHG emissions level by 2020. The City of Yucaipa will meet and exceed this goal subject to reduction measures that are technologically feasible and cost effective per Assembly Bill (AB) 32 through a combination of state (~87 percent) and local (~13 percent) efforts. Transportation sector GHG reductions in the City of Yucaipa involve vehicle emissions standards and the LCFS. As the Project would not conflict with state GHG reduction measures involving vehicle emissions and efficiency standards, the Project would be consistent with the *San Bernardino County Regional Greenhouse Gas Reduction Plan*.

The Project would enhance vehicle operation on I-10 within the Project limits and conserve energy related to fuel consumption and reduced vehicle delay. Thus, the Project would not conflict with the *City of Yucaipa General Plan*'s objective of "cost-effective practices to reduce GHG emissions and responsibly conserve resources" (City of Yucaipa 2016). By enhancing efficiency on I-10, the Project would also support the City of Calimesa's *General Plan*'s goal of "conserving energy, fuel, and water throughout the community" (City of Calimesa 2019).

The Project would not conflict with or obstruct state, regional, or local plans for renewable energy or energy efficiency. Therefore, no impacts are anticipated and no mitigation is required.

3.2.7 Geology and Soils

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☒	☐
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 direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.2.7.1 CEQA Significance Determinations for Geology and Soils

a) (i) (ii) Less than Significant Impact

As discussed in Section 2.13, Geology/Soils/Seismic/Topography, the Project is located between two significantly active and converging faults: the San Andreas Fault and the San Jacinto Fault. The San Andreas Fault, the most active known surface fault in California, is located approximately 5.50 miles to the northeast and capable of large magnitude earthquakes (largest recorded is 7.9 magnitude). The San Jacinto Fault, is located approximately 5 miles to the southwest and is also capable of large magnitude earthquakes (up to 7.7 magnitude). Additionally, a portion of the Project limits is located within a portion of the Chicken Hill Fault Zone (Chicken Hill Fault is less than 1 mile north of the Project limits), which is within the designated State of California Alquist Priolo Earthquake Fault Zone.

The Project is located within a seismically active region subject to future moderate to strong seismic ground shaking from earthquakes occurring along regional and local faults. Direct and indirect impacts related to strong seismic shaking may include ground deformation, which includes fissures, settlement, displacement, and loss of bearing strength. These are among the leading causes of damage to structures during moderate to strong earthquakes. Thus, the Project may be subject to strong seismic ground shaking.

Requirements for a geotechnical investigation during final design (Measure GEO-1, found in Section 2.13, Geology/Soils/Seismic/Topography) and implementation of recommendations from the report and adherence to Caltrans' Seismic Design Criteria and the Uniform Building Code are sufficient to avoid and/or minimize impacts related to surface fault rupture and strong seismic ground shaking. Therefore, impacts are considered less than significant, and no mitigation is required.

a) (iii) Less than Significant Impact

The potential for liquefaction to occur within the Project limits is considered low per the *City of Yucaipa General Plan* (City of Yucaipa 2016) and City of Calimesa *General Plan* (City of Calimesa 2014), as well as the DPGR (Caltrans 2019o) and SPGR (Caltrans 2018e). As discussed in Section 2.13, Geology/Soils/Seismic/Topography, seasonal shallow groundwater is anticipated within the creeks and washes; however, only two of three contributing factors creating susceptibility to liquefaction are potentially present within the Project limits. Consistent with the general plans, there is a low potential for liquefaction and lateral spreading to occur within the Project limits. With the implementation of Measure GEO-1, impacts are considered less than significant, and no mitigation is required.

a) (iv) Less than Significant Impact

There is a low risk level for landslides within the Project limits as there are cut slopes as high as 50 feet in the San Timoteo Formation ascending from the shoulder to the southwest of EB I-10, along the eastward I-10 segment southeast of Wildwood Wash (Caltrans 2019o). However, there is no indication of deep seated instability of these cuts into the San Timoteo Formation. The Project would not result in any additional cuts into these formations. Therefore, with the implementation of Measure GEO-1, impacts are considered less than significant, and no mitigation is required.

b) Less than Significant Impact

Construction activities may temporarily disturb soil within the Project limits, primarily in work areas, heavy equipment traffic areas, and material laydown areas. Temporary impacts would include soil compaction and increased potential of soil erosion. The construction contractor would be required to adhere to the requirements of the NPDES General Construction Permit, which would include implementing erosion and sediment control BMPs specifically identified in the Project SWPPP to prevent sediment from moving into receiving waters and impacting water quality. Refer to Section 2.12, Water Quality and Storm Water Runoff, for additional information regarding construction-related water quality issues, as well as BMP measures to minimize these impacts.

c) Less than Significant Impact

As stated previously, the potential for liquefaction to occur within the Project limits is considered low. As discussed in Response, 3.2.7 (a)(iii), there is a low potential for liquefaction and lateral spreading to occur.

There is a low risk level for landslides within the Project limits. However, there is no indication of deep-seated instability of these cuts into the San Timoteo Formation. The Project would not result in any additional cuts into these formations.

The potential for liquefaction, lateral spreading, and landslides would be further investigated during final design under Measure GEO-1, and findings and recommendations would be implemented as part of the Project to minimize any impacts as a result of liquefaction, lateral spreading, and landslides. Therefore, impacts are considered less than significant, and no mitigation is required.

d) Less than Significant Impact

Expansive soils generally result from specific clay minerals that have the capacity to undergo substantial volume change (shrink or swell) based on changes in moisture content. As such, sandy soils are not generally classified as expansive soils. The change in volume of expansive soil may

cause excessive cracking and heaving of structures with shallow foundations, concrete slabs, or pavements supported on these materials. The Project limits consist of soils that are primarily silty sands with coarser young alluvium within Wilson Creek, Yucaipa Creek, and Wildwood Wash and less permeable terrace deposits on the east and west end of the Project limits in hills away from the washes. Therefore, with the implementation of Measure GEO-1, impacts are considered less than significant, and no mitigation is required.

e) No Impact

No septic or alternative waste treatment systems would be required as part of the Project because it is a transportation facility and would not generate sewer demand. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

f) Less than Significant with Mitigation Incorporated

As discussed in Section 2.14, Paleontology, shallow excavations (40 inches to 3 feet bgs) proposed for the installation of the metal guardrails and roadway improvements are unlikely to impact paleontological resources in locations where the surface geology is mapped as Holocene age alluvial deposits. Most ground disturbance would be limited to within presently developed roadways and their disturbed underlying surfaces, as well as surfaces already partially disturbed within Caltrans and City ROW. Furthermore, the maximum depths of these excavations may not impact paleontological resources even in previously undisturbed areas because surface sediments typically extend several feet below the present ground surface and generally do not include intact and significant fossils. Consequently, shallow excavations for the metal guardrails and roadway are not anticipated to impact paleontological resources.

Excavations for signage foundations to a depth of 6 feet bgs could potentially impact paleontological resources in the Pleistocene age alluvial deposits and in the San Timoteo Formation. However, these excavations are not anticipated to exceed 8 inches in diameter, and only a few are proposed throughout the Project limits. Because ground disturbance would be limited to such a small total volume, excavations for the signage foundations are unlikely to impact paleontological resources.

Excavations for the foundations of the proposed cantilever signs to approximately 33 feet bgs are more likely to impact intact and paleontological significant resources. The cantilever signs are proposed for the eastern terminus of the Project limits, where outcrops of high potential Pleistocene age alluvial deposits and the San Timoteo Formation are mapped at the present ground surface. These proposed foundations would require a larger volume of excavated sediment than the Project activities discussed above. As a result of greater potential for Project impacts on paleontological

resources in areas of paleontological sensitivity, excavations for the foundations of the cantilever signs would require monitoring and mitigation, as outlined in Measure PAL-1.

As excavation for construction begins, it is possible that new and unanticipated paleontological resources might be encountered in areas currently determined to have low potential. If this occurs, a qualified Principal Paleontologist would need to evaluate each paleontological resource. If the paleontological resource is determined to be significant, monitoring and mitigation would be required, as identified in Measure PAL-2. With the implementation of Measures PAL-1 and PAL-2, impacts are considered less than significant with mitigation incorporated.

3.2.8 Greenhouse Gas Emissions

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion of Environmental Evaluation Question 2.8 – Greenhouse Gas Emissions

Section 3.4, Climate Change, describes, calculates, and estimates the amount of GHG emissions that may occur related to the Project. While the Project would result in GHG emissions during construction, it is anticipated that operation of Alternative 2 (Build Alternative) would result in lower emissions than the Existing Baseline Conditions and Alternative 1 (No-Build Alternative). When compared with the No-Build Conditions, operation of Alternative 2 (Build Alternative) would result in a minimal increase in emissions. Because there is a reduction in future emissions with the Project compared with existing emissions, there is still evidence of substantial progress in reducing emissions, and the impact is considered less than significant.

The Project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. With implementation of construction GHG-reduction measures, the impact would be less than significant, and no mitigation is required.

Avoidance, Minimization, and/or Mitigation Measures

Additional avoidance and minimization measures to address potential temporary and permanent Project-specific GHG emissions and impacts on climate change under CEQA can be found in Section 3.4.7.

3.2.9 Hazards and Hazardous Materials

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	☐	☐	☒	☐

3.2.9.1 CEQA Significance Determinations for Hazards and Hazardous Materials

a) Less than Significant Impact

During Project construction, hazardous materials would be used (e.g., lubricants, such as grease and oils, petroleum fuels, cleaning solvents, and paints), and hazardous wastes would be generated, such as construction debris, TWW, and ACM associated with the Oak Glen Creek Bridges. Routine maintenance activities during Project operation would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, impacts are considered less than significant, and no mitigation is required.

b) Less than Significant Impact

As discussed in Section 2.15, Hazardous Waste and Materials, no RECs, HRECs, or CRECs sites were identified within the Project limits. However, 18 adjacent properties were identified to have a low to moderate potential of impacting the Project, including 2 HREC sites identified as Unocal 76 Station #5636 facility and The Jorco Chemical Company and 1 REC site identified as the Sorensen Engineering facility. No work associated with the Project would occur at these HREC and REC properties, and the Project will avoid the Sorensen Engineering facility (REC site), as identified in Measure HAZ-4.

Hazardous wastes and materials that may be encountered during construction activities for the Project would be properly handled, contained, transported, and disposed of in compliance with applicable regulations and requirements, which may include the RCRA, the CCAA, the CWA, the California DTSC Environmental Health Standards for the Management of Hazardous Waste, the provisions of the SBCFD Hazardous Materials Division, and USDOT hazardous materials regulations. Measures HAZ-1 through HAZ-3 describe efforts that would be made to avoid or minimize impacts with known or suspected hazardous materials and wastes during construction.

Project construction would require disturbance activities, including median paving, of the Oak Glen Creek Bridges (Bridge No. 54-0648L and 54-0648R) to accommodate the widening of I-10. According to *Asbestos and Lead-Based Paint Testing Results* (Caltrans 2019f), ACM were detected beneath bolts associated with the guardrail bolts in Bridge No. 54-0648L and atop bolts associated with the guardrail bolts in Bridge No. 54-0648R. Any work that would physically impact ACMs would be conducted in accordance with Caltrans' SSP 14-11.16, Asbestos-Containing Construction Materials in Bridges, SCAQMD Rule 1403, and the NESHAP, as identified in Measure HAZ-1.

The Project may require the removal of treated wood in the supports of the median guardrails and signage posts along the Project corridor. Treated wood objects removed from the Project corridor

are classified as TWW. The removal of any TWW would be conducted in accordance with Chapter 34 of the Title 22 CCR Section 67386.1 through 67386.12, as identified in Measure HAZ-2.

The Project also has the potential to expose workers to lead in ADL soils, traffic striping, and LBP in bridges. A LCP will be prepared to protect worker safety from exposure to lead. A Certified Industrial Hygienist would prepare the LCP and in accordance with Title 8 CCR Section 1532.1, as identified in Measure HAZ-3.

Therefore, with the implementation of Measures HAZ-1 through HAZ-4, the Project would not 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. Thus, impacts are considered less than significant, and no mitigation is required.

c) No Impact

No existing schools have been identified within 0.25 mile of the Project limits. The nearest school to the Project limits is Mesa View Middle School, which is located approximately 1,578 feet (0.30 mile) southwest of the Project limits. As such, implementation of the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

d) No Impact

The Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, also known as the Hazardous Waste and Substances Sites (Cortese) List. As a result, the Project would not create a significant hazard to the public or the environment. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

e) No Impact

The closest public airport or public use airport is the Redlands Municipal Airport, located approximately 5 miles northwest of the Project. Construction or operation of the Project would not result in an airport safety hazard in the Project limits. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

f) Less than Significant Impact

During Project construction, temporary impacts on vehicular flow and traffic may occur. To ensure that construction of the Project would not physically interfere with the City's adopted emergency response plan, Measure TR-1 is proposed. Measure TR-1 requires the preparation and

implementation of a TMP and would consider construction and alternative route strategies in the event that portions of roadways within the Project limits are restricted during certain construction activities. In addition, the Project would comply with the City of Yucaipa's Emergency Operations Plan, which addresses extraordinary emergency situations. All emergency procedures would be consistent with local, state, and federal guidelines during Project construction and operation. Therefore, impacts are considered less than significant, and no mitigation is required.

g) Less than Significant Impact

According to Figure S-3 – Fire Safety Overlay District in the *City of Yucaipa General Plan* (City of Yucaipa 2016), areas in the western portion of the Project limits are located in Fire Safety Review Area 1, which corresponds to very high to extremely high fire hazard severity zones recommended by CAL Fire. The City of Yucaipa very high fire hazard severity zone (VFHSZ) map in local responsibility areas (LRA) identifies very high fire severity zones (VHFZ) to the west of the Project limits, south of Outer Highway 10 South. The Project's two potential staging areas are located at Outer Highway 10 South and Live Oak Canyon Road interchange, which are located within the City of Yucaipa's ROW. Existing commercial and industrial uses between I-10 and Outer Highway 10 South would not be exposed to significant risk involving wildland fires as all Project construction activities would occur within Caltrans ROW with the exception of the staging areas. The Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, impacts are considered less than significant, and no mitigation is required.

3.2.10 Hydrology and Water Quality

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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 runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
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; or	☐	☐	☒	☐
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?	☐	☐	☒	☐

3.2.10.1 CEQA Significance Determinations for Hydrology and Water Quality

a) Less than Significant Impact

Three waterbodies are located within the Project limits: Wilson Creek, Yucaipa Creek, and Wildwood Wash. According to the RWQCB Santa Ana Basin Plan (California Water Board 2019), designated beneficial uses for Wilson Creek, Yucaipa Creek, and Wildwood Wash consist of MUN, GWR, REC1, REC2, WARM, WILD, and/or RARE, and are further discussed in Section 2.11, Hydrology and Floodplain. The Basin Plan includes water quality objectives for Wilson Creek and Yucaipa Creek and is further discussed in Section 2.12, Water Quality and Storm Water Runoff. In addition, Wilson Creek, Yucaipa Creek, and Wildwood Wash are not listed as impaired waters on the CWA 303(d) List and 305(b) Report of the 2014 and 2016 Integrated Report. However, there are downstream receiving water bodies that are impaired, such as sections of San Timoteo Creek, Santa Ana River, and Newport Slough, as discussed in Section 2.12, Water Quality and Storm Water Runoff.

The Project would require heavy construction within the creek bed of Wilson Creek but not for Yucaipa Creek or Wildwood Wash. The designated beneficial uses for Wilson Creek are MUN, GWR, REC1, REC2, WARM, and WILD. It is not anticipated that impacts would occur on the MUN or GWR beneficial uses as there are no municipal or domestic water supply reservoirs or groundwater percolation facilities within the Project limits. Temporary impacts on REC1 and REC2 beneficial uses would be minimized by the implementation of a TMP, which would include signage, detours, and public notices (Measure TR-1). Temporary impacts on WARM and WILD beneficial uses would be minimized by the implementation of Measures NC-1 to NC-4, Measure WET-1, Measures AS-1 through AS-4, and Measures TE-1 and TE-2. These measures would minimize impacts on sensitive plant and animal species. The Project would not result in permanent impacts on the beneficial uses of Wilson Creek or cause further impairments of any receiving waterbodies.

The Project would result in approximately 12.30 acres of disturbed soil areas and has the potential to result in temporary impacts on water quality during construction activities, such as demolition and roadway and bridge construction. Grading and other earth-moving activities can cause an increase in soil erosion, sediments, and other pollutants from entering Yucaipa Creek, Wilson Creek, and Wildwood Wash. However, the Project would be required to comply with the Caltrans NPDES Statewide Storm Water Permit and NPDES Construction General Permit (Measure WQ-1), which would include preparation of an SWPPP and implementation of erosion and sediment control BMPs during construction (Measure WQ-2), which would minimize temporary impacts on water quality.

There are no municipal or domestic water supply reservoirs or groundwater percolation facilities within the Project limits. In addition, dewatering is not anticipated during Project construction. However, if dewatering activities are required, the Project would be required to obtain a dewatering permit, comply with all waste discharge requirements set by the Santa Ana RWQCB, and implement dewatering BMPs (Measure WQ-3).

The Project also has the potential to result in permanent impacts on water quality due to an increase in impervious surface areas of 7.30 acres, which would increase surface runoff and additional pollutants from entering water resources. However, design pollution prevention BMPs and treatment control BMPs would be implemented to address the increase in impervious surfaces by stabilizing soils and capturing and treating the additional runoff before it enter water channels (Measures WQ-4 and WQ-5). Proposed treatment BMPs include an infiltration basin and two DPPIAs, further discussed in Section 2.12, Water Quality and Storm Water Runoff. It is anticipated the treatment BMPs would be able to accommodate and treat 100 percent of the additional runoff created by the new impervious area within the Project limits; this would be confirmed during the PS&E phase.

With the implementation of Measures WQ-1 through WQ-5, Measure TR-1, Measure NC-1 through NC-4, Measure WET-1, Measures AS-1 through AS-4, and Measures TE-1 and TE-2, the Project is not anticipated to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Therefore, impacts are considered less than significant, and no mitigation is required.

b) Less than Significant Impact

The Project is located within the Upper Santa Ana Valley Groundwater Basin. Depth to groundwater in the Project area has been measured to be as shallow as 20 feet bgs and as deep as 152 feet bgs. As discussed in Section 2.13, Geology/Soils/Seismic/Topography, along the majority of the Project limits, groundwater is not expected to be encountered. In addition, there are no municipal or domestic water supply reservoirs or groundwater percolation facilities within the Project limits. However, groundwater levels within the Project limits are expected to fluctuate due to changes in upstream groundwater basin levels and flood control management, as well as seasonal flows in the creeks and washes, up-gradient development, nearby construction, irrigation, and numerous other artificial and natural influences.

Dewatering is not anticipated during construction of the Project. However, if dewatering activities are required, the Project would be required to obtain a dewatering permit, comply with all waste discharge requirements set by the Santa Ana RWQCB, and implement dewatering BMPs (Measure WQ-3). The Project is not anticipated to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project would impede substantial groundwater management of the basin. Therefore, impacts are considered less than significant, and no mitigation is required.

c) (i), (ii), (iii), (iv) Less than Significant Impact

The Project is located within 100-year floodplains that are associated with Yucaipa Creek, Wilson Creek, and Wildwood Wash. Based on the results of the hydraulic analysis, the new single Wilson Creek Bridge was found to have a freeboard distance of 3.1 feet from the bridge soffit and would be able to accommodate the increase in floodwaters. There is low impact on the hydraulics from the existing to proposed conditions, leading to low overtopping potential. A detailed survey of the Wilson Creek Channel and bridge configuration and soffit should be performed during the PS&E phase to verify the actual freeboard amount. The floodplain for Wilson Creek would remain within the current channel with the proposed conditions, and the improvements are considered to be low risk, as discussed in Section 2.11, Hydrology and Floodplain. Improvements to the Wilson Creek Bridge would not alter the course of the water channel, including the new piers, which would be installed near the existing piers.

The existing drainage facilities within the Project limits would be protected in place and/or upgraded, where applicable, to accommodate the proposed roadway widening. In addition, the Project would result in 7.30 acres of new impervious surface areas; however, design pollution prevention BMPs and treatment control BMPs would be implemented to address the increase in impervious surface areas by stabilizing soils and capturing and treating the additional runoff before it enters water channels (Measures WQ-4 and WQ-5). Proposed treatment BMPs include an infiltration basin and two DPPIAs, which are further discussed in Section 2.12, Water Quality and Storm Water Runoff. It is anticipated the treatment BMPs would be able to accommodate and treat 100 percent of the additional runoff created by the new impervious area within the Project limits; this would be confirmed during the PS&E Phase. Therefore, the increase in impervious surface areas would not result in alternating the course of a stream or river. Impacts are considered less than significant, and no mitigation is required.

d) No Impact

The Project is located over 50 miles east of the Pacific Ocean. Thus, the Project is not located in a tsunami hazard zone. Seiches are standing waves that occur in enclosed water bodies, such as a lake or bay. There are no confined large bodies of water within the vicinity of the Project limits, such as a lake or reservoir and, as result, the Project is not located in a hazard area for seiches.

The Project is located within 100-year floodplains that are associated with Yucaipa Creek, Wilson Creek, and Wildwood Wash. However, the Project is not anticipated to result in any flood hazards that are different from existing conditions. The Project does not include the permanent storage of any hazardous waste and materials within the Project limits and, therefore, risk of release of pollutants due to Project inundation from flood hazards is not applicable to the Project. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

e) Less than Significant Impact

As previously discussed, the Project would result in a soil disturbance area of approximately 12.30 acres, as well as 7.30 acres of new impervious surface areas. Project construction would require compliance with the RWQCB Santa Ana Basin Plan (California Water Board 2019) and the Caltrans NPDES Statewide Storm Water Permit and NPDES Construction General Permit, which requires compliance with state and federal water quality regulations regarding construction and operational water quality discharge. Complying with such water quality control plans and regulations would minimize the potential for the Project to conflict with or obstruct the implementation of any applicable water quality control plans or groundwater management plans. Impacts are considered less than significant, and no mitigation is required.

3.2.11 Land Use and Planning

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.2.11.1 CEQA Significance Determinations for Land Use and Planning

a) No Impact

The Project would convert the existing median into a general purpose lane and convert the existing outside general purpose lane into the newly dedicated TCL, all within Caltrans ROW.

The Project would include temporary impacts resulting from TCEs identified for construction equipment staging areas. Project implementation would not require partial or full acquisition of land or change existing land use designations and would not require any displacement of businesses or residences. Therefore, the Project is consistent with local and regional planning documents and would not physically divide an established community. No impacts are anticipated for this issue area, and no mitigation is required.

b) No Impact

As discussed in Section 2.2, Consistency with State, Regional, and Local Plans and Programs, the Project does not conflict with any applicable land use plan, policy, or regulation. Additionally, the Project is a planned and programmed Project in the adopted Final 2019 FTIP (SCAG 2019) and SCAG 2020-2045 RTP/SCS (SCAG 2020). As mentioned above, the Project would not partially or fully acquire any land and would not require the conversion of land uses, as designated by the applicable land use plans. Therefore, the Project is consistent with local and regional planning documents. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

3.2.12 Mineral Resources

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.2.12.1 CEQA Significance Determinations for Mineral Resources

a), b) No Impact

The general plans, specific plans, and other applicable land use plans of the City of Yucaipa and City of Calimesa do not identify any areas within their jurisdictions that have known mineral resources that would be of value to the state or region or locally important mineral resource recovery sites. Additionally, the Project is located within an existing transportation corridor and would provide improvements within the existing ROW. No acquisition of land would occur as part of this Project. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

3.2.13 Noise

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.2.13.1 CEQA Significance Determinations for Noise

a) Less than Significant Impact

Sensitive receivers would be temporarily exposed to noise during construction of the proposed Project. The closest sensitive receptor, modeled receptor 48, is comprised of residential uses located approximately 80 feet north of the Project construction area. Thus, receptor locations could be subject to short-term noise between approximately 76 and 85 dBA L_{max} generated by construction activities along the Project alignment. However, no adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14-8, Noise and Vibration, and applicable local noise standards.

Furthermore, as provided in Section 2.17.4.1, implementation of Measures N-2 and N-3 would minimize the temporary noise impacts from construction. These measures involve using sound-control devices and minimizing construction equipment idling.

Potential permanent noise impacts associated with Project operations under Alternative 2 (Build Alternative) are solely from traffic noise. Traffic noise was evaluated for the worst-case traffic condition. As discussed in Section 2.17, Noise, with implementation of the Project, 31 of 76 modeled receptors would approach or exceed the 67 dBA L_{eq} NAC under the proposed Project.

In the Future Build Condition, receivers would experience up to a 3 dBA increase in noise levels when comparing the Existing Baseline Condition to the 2035 Build Condition. There would be up to a 1 dBA increase in noise levels when comparing the Future No-Build Condition compared with the Future Build Condition, and noise levels at most receptors would remain the same or decrease. A 3 dBA change is the lowest level that is perceptible by the average human ear in an outdoor environment. Under CEQA, comparison is made between the baseline noise level and the 2035 Build Condition noise level. Because the proposed Project setting is highly urbanized and because of the proximity of the receptors to the highway, the magnitude of the noise increase is not

considered substantial and would not result in a significant noise impact under CEQA. Therefore, impacts are considered less than significant, and no mitigation is required.

b) Less than Significant Impact

During construction, the proposed Project could generate ground borne noise. This would be controlled by adherence to City and Caltrans noise standards. An increase in ground borne vibration is not anticipated as the Project would reconstruct a TCL within the existing ROW. Therefore, impacts are considered less than significant, and no mitigation is required.

c) No Impact

The Project is not located within the vicinity of a private airstrip or airport land use plan. The closest airport is the Redlands Municipal Airport, located approximately 5 miles northwest of the Project limits. The San Bernardino International Airport is located approximately 8 miles northwest of the Project limits. Therefore, the Project would not expose people residing or working within the Project limits to excessive noise levels. No impacts are anticipated for this issue area, and no mitigation is required.

3.2.14 Population and Housing

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.2.14.1 CEQA Significance Determinations for Population and Housing

a), b) No Impact

As discussed in Section 2.4, Growth, the Project would not establish new homes, result in permanent employment opportunities, or provide any new access into areas that previously had no access. The Project would result in improvements to an existing transportation facility that would improve the safety and operations of EB I-10 within the Project limits, resulting in an improvement in accessibility to the overall transportation system. Growth in the Cities of Yucaipa and Calimesa is

expected to occur with or without the Project because the Project, on its own, cannot affect variables that contribute to growth. Therefore, the Project would not be expected to influence the amount, location, and/or distribution of growth in the community impact study area cities and the County, and no replacement housing would be required. Thus, no impacts are anticipated for this issue area, and no mitigation is required.

3.2.15 Public Services

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

3.2.15.1 CEQA Significance Determinations for Public Services

a) (i), (ii) Less than Significant Impact

As discussed in Section 2.7, Utilities Emergency Services, fire protection services that serve the area within the Project limits are provided through an agreement between the Yucaipa Fire Department and CAL Fire. CAL Fire provides fire and emergency response and develops and implements prefire management solutions. Fire protection services for the City of Calimesa are provided by the Riverside County Fire Department.

Within the City of Yucaipa, the closest fire station to the Project limits, Fire Station #3, is located at 906 Park Avenue, approximately 0.78 mile northeast of the Project limits. However, within 0.50 mile of the Project limits is a fire station within the jurisdiction of the City of Calimesa, Fire Station #21, located at 34259 Wildwood Canyon Road, adjacent to the Project's southern terminus.

In addition, the San Bernardino County Sheriff's Department is responsible for police patrol and protection services in the area within the Project limits. There are no police stations or CHP offices

within the Project limits. The closest CPH office is located at 195 North Highland Springs Avenue in the City of Beaumont, located approximately 8.60 miles southeast of the Project limits.

The Project would not construct any new residential or non-residential structures that could induce population or employment growth. Therefore, there would be no increase in demand for fire protection services and no need for new or expanded fire protection services or facilities as a result of Project implementation. However, during construction, a TMP, as recommended by Measure TR-1, would be implemented to minimize any temporary disruptions to circulation. The TMP would involve public notification of the upcoming construction work and traffic management during construction activities.

Once construction is complete and the Project is operational, it is anticipated that congestion along EB I-10 would be reduced. Therefore, it is anticipated that operation of the Project would not impact response times for fire protection services. Impacts are considered less than significant, and no mitigation is required.

a) (iii) Less than Significant Impact

As discussed in Section 2.5, Community Character and Cohesion, there are two schools within 0.50 mile of the Project limits. These include one private preschool, Montessori Kids Land Academy, located at 31587 Alta Vista Drive in the City of Redlands, and one public middle school, Mesa View Middle School, located at 800 Mustang Way in the City of Calimesa, that are within the community impacts study area. There are no public or private schools that have been identified within the City of Yucaipa that are within 0.50 mile of the Project limits. No direct physical impacts during construction or operation of the Project would occur. During construction, temporary disruptions to traffic may occur. However, a TMP, as recommended by Measure TR-1, would be implemented during construction to minimize any temporary disruptions to circulation. The TMP would involve public notification of the upcoming construction work and traffic management during construction activities.

Once construction is complete and the Project is operational, it is anticipated that congestion along EB I-10 would be reduced, which may enhance efficiency for those who utilize I-10 to travel to these schools. Therefore, impacts are considered less than significant, and no mitigation is required.

a) (iv) Less than Significant Impact

As discussed in Section 2.5, Community Character and Cohesion, there are two public parks, four existing trails, and open space that allows for limited recreational activity within the Cities of Yucaipa, Calimesa, and Redlands within 0.50 mile of the Project limits. No direct physical impacts during construction or operation of the Project would occur on these recreational facilities. However, during construction, temporary disruptions to traffic may occur. However, a TMP, as recommended by

Measure TR-1, would be implemented during construction to minimize any temporary disruptions to circulation. The TMP would involve public notification of the upcoming construction work and traffic management during construction activities.

Once construction is complete and the Project is operational, it is anticipated that congestion along EB I-10 would be reduced, which may enhance efficiency for those who need to access these recreational facilities. Therefore, impacts are considered less than significant, and no mitigation is required.

a) (v) Less than Significant Impact

As discussed in Section 2.5, Community Character and Cohesion, other public facilities within 0.50 mile of the Project limits include the Norton Younglove Senior Center, located at 908 Park Avenue in the City of Calimesa. The Norton Younglove Multipurpose Senior Center, in cooperation with the Riverside County Office of Aging, provides hot lunches five days per week on location. The Norton Younglove Multipurpose Senior Center also offers a number of services for all ages including a Senior Lunch Program, special events, bingo, trips, and classes. No direct physical impacts during construction or operation of the Project would occur on this community center. However, during construction, temporary disruptions to traffic may occur. However, a TMP, as recommended by Measure TR-1, would be implemented during construction to minimize any temporary disruptions to circulation. The TMP would involve public notification of the upcoming construction work and traffic management during construction activities.

Once construction is complete and the Project is operational, it is anticipated that congestion along EB I-10 would be reduced, which may enhance efficiency for those who need to access this community center. Therefore, impacts are considered less than significant, and no mitigation is required.

3.2.16 Recreation

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) 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?	☐	☐	☐	☒

3.2.16.1 CEQA Significance Determinations for Recreation

a) No Impact

As stated in Section 3.2.14.1 a) and described in Section 2.4, Growth, the Project would not establish new homes, result in permanent employment opportunities, or provide any new access into areas that previously had no access. The Project would result in transportation facility improvements that would improve the safety and operations of EB I-10 and improvements in accessibility to the overall transportation system. Growth in the Cities of Yucaipa and Calimesa is expected to occur with or without the Project because the Project, on its own, cannot affect variables that contribute to growth. Therefore, the Project would not increase the use of an existing neighborhood and regional facility such that substantial physical deterioration of the facility would occur or be accelerated. No impacts are anticipated for this issue area, and no mitigation is required.

b) No Impact

The Project does not include the construction of a new or expansion of an existing recreational facility. The Project is a transportation project within an urbanized transportation corridor that seeks to enhance safety and relieve congestion. No impacts are anticipated with this issue area, and no mitigation is required.

3.2.17 Transportation

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.2.17.1 CEQA Significance Determinations for Transportation

a) No Impact

At the state level, the Caltrans Strategic Management Plan, released in 2015, includes specific performance targets in the plan for increasing percentage of non-auto modes for transit, bicycle, and pedestrian uses (Caltrans 2015). The Project would enhance efficiency on EB I-10 and would not obstruct transit operations within the Project limits. As mentioned in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, there are no existing pedestrian or bicycle facilities within the Project limits. Thus, the Project would not conflict with the Strategic Management Plan.

As shown in Table 2.2-1 (Section 2.2, Consistency with State, Regional, and Local Plans and Programs), the Project's consistency with applicable local and regional land use plans, policies, and regulations with regard to the circulation system were reviewed. The Project does not conflict with any land use plan, policy, or regulation with regard to the transportation systems in the Cities of Yucaipa, Calimesa, and Redlands. The Project is included in the 2019 FTIP and the SCAG 2020 RTP for San Bernardino County as Project ID: 20179901. As the 2020-2045 RTP/SCS seeks to improve mobility and accessibility in the region, the Project would be consistent with this regional plan as it would improve operational efficiency on I-10 within the Project limits.

The *City of Yucaipa General Plan* (City of Yucaipa 2016) identifies planned multipurpose trails that will be adjacent to and undercross I-10; however, these planned trails would not be impacted by the

Project as I-10 is an existing freeway and would not acquire any land dedicated to these facilities. There are no planned pedestrian facilities or bicycle facilities by the City of Yucaipa adjacent to the Project limits. Planned bicycle facilities are provided in the *San Bernardino County Non-Motorized Transportation Plan* (SBCTA 2011) and includes Class II Bicycle Paths along Calimesa Boulevard from Oak Glen Road to the southern city limit (2.26 miles) and along Live Oak Canyon Road from the western city limit to I-10 (0.62 mile). As these proposed bicycle paths are not located within the Project limits, the Project would not conflict with the *San Bernardino County Non-Motorized Transportation Plan*. Therefore, no impact is identified for this issue area, and no mitigation is required.

b) No Impact

Section 15064.3 was added to the Guidelines and describes the specific considerations for evaluating a project's transportation impacts. While public agencies may immediately apply Section 15064.3 of the updated Guidelines, statewide application is not required until July 1, 2020.

In addition, the existing TCL on EB I-10 was established in 2005 from Ford Street in Redlands to Live Oak Interchange in Yucaipa. The Build Alternative for the Project proposes to extend the TCL approximately 3 miles from the I-10/Live Oak Interchange in the City of Yucaipa to I-10/County Line Road Interchange in City of Calimesa in order to improve traffic operations and traffic flow by separating slower moving heavy vehicles from faster moving passenger cars along a freeway segment with sustained grades of up to 3.75 percent. Speed differentials in the sustained grade and weaving of passenger cars around slower moving heavy vehicles in the existing outside GP lane is identified as a safety concern that would be improved by this Project. Given the sustained grade along the corridor, this Project would not add capacity to this section of I-10; rather it would provide space for trucks to operate at a lower operating speed while climbing the sustained 3 mile grade.

Prior to the interchange improvements at the I-10/Live Oak interchange completed in 2009, the continuation of a dedicated TCL was not possible due to limited clearance of the overcrossing structure. After the interchange improvements were implemented, adequate clearance to accommodate the continuation of the EB TCL is now possible. Currently, the freeway segment along I-10 from the 16th Street Overcrossing to County Line Road is undergoing a pavement rehabilitation attributed to a project under Caltrans EA 0K293, in order to replace broken and deteriorated pavement slabs. Construction is expected to be complete in 2020. The pavement rehabilitation project will construct a deeper pavement structural section for the outside EB lane to accommodate heavy vehicle loads.

This Project would pave the median and add a concrete barrier to divide the EB and westbound roadbeds, then restripe and shift the EB GP lanes to the inside by one lane width so that lane

number one (interior lane) is located in the newly paved median and the existing outermost EB lane becomes the designated truck climbing lane. Upon completion of the Project, the larger and typically slower heavy vehicles (speeds ranging from 55 mile per hour [mph] – 35 mph) would have a dedicated lane while climbing the sustained grade in the EB direction, and passenger vehicles would be able to maintain a higher speed (typically 65 mph) in the three GP lanes maintained for this segment of I-10. The Project features and elements being proposed for construction directly relate to operational benefits considering the rate and length of the sustained uphill grade for trucks and heavy vehicles as well as wider paved median shoulders along with replacement of existing metal guard rail with a permanent concrete median barrier.

The Technical Advisory on Evaluating Transportation Impacts provides further guidance on facilities that would likely lead to a substantial increase in vehicle travel which would potentially induce travel. These include through lanes, general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges. The advisory goes on to identify the following facilities as projects that would likely not lead to an increase in vehicle travel:

- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor.

The EB TCL is consistent with this definition of facilities that would not increase the overall vehicle capacity along the corridor but would improve operations and safety on the facility. This same guidance is provided under the Project Screening section of the Draft Caltrans' Traffic Analysis Framework (TAF). Based on the available guidance and the fact that the project will not induce travel along the corridor, the project is recommended as screened from further VMT impact assessment. Therefore, no impact is identified for this issue area, and no mitigation is required.

c) No Impact

The Project is a transportation project that would provide improvements along EB I-10 to improve efficiency for motorists. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slower moving trucks. As stated in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, and shown in Table 2.8-3, EB I-10 Collision Rate Summary, collision rates on several EB I-10 on- and off-ramps within the Project limits are above statewide average collision rates on similar facilities. The Project would add a dedicated TCL and maintain the number of general purpose lanes by converting the existing median into a general purpose lane. The Project would improve the existing operational characteristics for truck and other slow-moving vehicles and reduce weaving and truck accident frequency. Project improvements would occur within existing Caltrans and City ROW and does not include any geometric designs,

such as new signalized intersections or incompatible uses. Therefore, the Project design would not substantially increase hazards due to a geometric design feature, such as a dangerous intersection or incompatible use. No impacts are anticipated for this issue area, and no mitigation is required.

d) Less than Significant Impact

As mentioned in Section 2.7, Utilities Emergency Services, and 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, under Alternative 2 (Build Alternative), a TMP, as provided by Measure TR-1, would be prepared for the Project to minimize potential traffic delays during construction activities. Preparation and implementation of the TMP would include coordination with local jurisdictions to ensure detour routes are appropriate and that local access via on- and off- ramps to residences and businesses are maintained at all times. During construction, appropriate signage and advanced warning would be developed and displayed to alert commuters of upcoming construction activities and direct vehicular traffic alternate routes. During Project operation, improvements to traffic operation and safety on EB I-10 are anticipated to result in improvements to emergency access and response times to the area surrounding the Project limits that may have been directly or indirectly limited due to existing operational efficiencies. Therefore, impacts are considered less than significant, and no mitigation is required.

3.2.18 Tribal Cultural Resources

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe	☐	☐	☒	☐

3.2.18.1 CEQA Significance Determinations for Tribal Cultural Resources

a) i), ii) Less than Significant Impact

As discussed in Section 2.10, Cultural Resources, a qualified archeologist consulted with the NAHC to elicit pertinent cultural resource information available in the Sacred Lands File. The NAHC responded September 27, 2017, stating the Sacred Lands File search for the Project was completed, and the results were negative, but the area is sensitive for cultural resources. As a result, the NAHC provided a list of Native American contacts within the region for follow-up and letters dated October 9, 2017, were sent to the following individuals:

- Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians
- Anthony Morales, Chairperson, Gabrielino-Tongva Tribe
- Sandonne Goad, Chairperson, Gabrielino-Tongva Tribe
- Robert Dorame, Chairperson, Gabrielino-Tongva Tribe
- Lee Claus, Director of Cultural Resources, San Manuel Band of Mission Indians
- Goldie Walker, Chairperson, Serrano Nation of Mission Indians
- Joseph Ontiveros, Cultural Resource Department, Soboba Band of Luiseño Indians

These letters also serve as formal notification of the Project as required under CEQA, specifically PRC 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). The letters provided a Project description and location and discussed upcoming cultural resources studies of the Project area.

The first round of follow-up phone calls and emails was conducted March 2, 2018. A second round of follow-up emails and phone calls was completed April 3 and April 11, 2018, respectively. A third round of follow-up emails was conducted May 7, 2018, and a final round of follow-up emails was conducted June 6, 2018.

Based on the Native American consultation conducted to date, the Project is located within the Serrano ancestral territory, and consultation with the San Manuel Band of Mission Indians tribe has been deemed complete. It is also located within the Soboba Band of Luiseño Indians Tribe's traditional use area and is within close proximity to known sites that are considered culturally sensitive by the tribe. The Soboba Band of Luiseño Indians Tribe requested that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department be present during any Project-related ground disturbance. However, Caltrans has determined that with the implementation of CR-1 and CR-2 which are considered standard actions if cultural resources are discovered, no further provisions are required for this undertaking, and impacts are considered less than significant.

3.2.19 Utilities and Service Systems

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

3.2.19.1 CEQA Significance Determinations for Utilities and Service Systems

a) Less than Significant Impact

The Project is a transportation improvement project that would extend the EB TCL on I-10. The Project would not construct any new residential or non-residential structures that could induce population or employment growth and increase the demand or exceed the current capacity of existing utility systems. As discussed in Section 2.7, Utilities and Emergency Services, and Section 2.12, Water Quality and Storm Water Runoff, the Project would upgrade existing drainage facilities and develop on-site runoff treatment areas within Caltrans ROW. Following completion of the Project, there is some potential for permanent water quality impacts to result from operation and maintenance activities, such as highway maintenance and inspections. Permanent impacts involve increased impervious areas, alterations in drainage patterns on roadways, long-term discharges of sediment and other pollutants collected in stormwater, and polluted surface runoff. Mitigation

measures and BMPs, as discussed in Section 3.2.10. Hydrology and Water Quality, would be implemented in order to address impacts on water quality.

The environmental effects as a result of an increase of impervious area and drainage improvements would not require the relocation or expansion, or construction of waste water treatment, storm water drainage, electric power, natural gas, or telecommunication facilities to accommodate Project implementation. In addition, no utility relocations or ramp modifications are anticipated, and no interruption of utilities serving the Cities of Yucaipa or Calimesa would occur. Therefore, impacts are considered less than significant, and no mitigation is required.

b) No Impact

The Project would not construct any new residential or non-residential structures that could induce population or employment growth and would not require any water or sewer service during operation that would increase the need for new infrastructure. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

c) No Impact

The Project is a transportation improvement project that would extend the EB TCL on I-10. The Project would not construct any new residential or non-residential structures that could induce population or employment growth. Thus, the Project would not increase the demand for wastewater treatment or affect capacity of wastewater treatment facilities. No impacts are anticipated for this issue area, and no mitigation is required.

d) Less than Significant Impact

Project construction activities would not involve demolition of any large structures as the Project improvements would be limited to the addition of a TCL along EB I-10 by paving the existing median. All solid waste generated by construction activities would be disposed of properly using locally licensed waste hauling services to a certified landfill and/or construction waste recycling facility. The nearest landfill site is the San Timoteo Sanitary Landfill located at Palomares Road in the City of Redlands. This landfill site, operated by the County of San Bernardino, is located approximately 9 miles west of the Project limits. The remaining capacity at this facility is approximately 11,402,000 cubic yards with an estimated closure year of 2043 (CalRecycle 2019). Solid waste generated from Project construction activities would not exceed the remaining capacity at San Timoteo Sanitary Landfill or state and local standards for solid waste. Therefore, impacts are considered less than significant, and no mitigation is required.

e) No Impact

The Project is a transportation project that would generate a minor amount of solid waste during construction activities, as well as maintenance during Project operation. Maintenance within the Project limits would involve roadway maintenance including pavement, roadside litter/sweeping, and signs and markers. Solid waste generated during the construction and operational phases of the Project would be disposed of in accordance with federal, State, and local regulations related to construction waste and recycling, which would minimize the amount of waste material entering local landfills. Therefore, no impacts are anticipated for this issue area, and no mitigation is required.

3.2.20 Wildfire

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
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 to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.2.20.1 CEQA Significance Determinations for Wildfire

a) Less than Significant Impact

The Project is a transportation project located in the Cities of Yucaipa and Calimesa in the County of San Bernardino and County of Riverside, respectively. The City of Yucaipa General Plan (City of Yucaipa 2016) and the City of Calimesa General Plan (City of Calimesa 2014) have identified I-10 as an interstate evacuation route. Additionally, within the Project limits, the City of Yucaipa and

Calimesa General Plans have identified Wildwood Canyon Road and Calimesa Boulevard as local evacuation routes. The Project would improve existing operations along I-10 and the surrounding local arterials, such as Wildwood Canyon Road and Calimesa Boulevard. Resulting in permanent overall improvements to existing access and circulation along these evacuation routes. Therefore, no significant impacts are anticipated during operation of the Project and no mitigation measures are required.

During construction of the Project, impacts to circulation and access to these evacuation routes may occur. However, with the implementation of a TMP as identified in Measure TR-1, temporary impacts to access and circulation along these identified evacuation routes would be minimized. Therefore, temporary impacts would be considered less than significant with the implementation of Measure TR-1.

b) No Impact

There are no state responsibility areas within the Project limits in either the City of Yucaipa or the City of Calimesa, and the Project limit is not adjacent to any area state responsibility areas. However, according to the City of Yucaipa Hazard Mitigation Plan, updated in 2014, the City has high risk of wildfire due to dry weather conditions, topography, high winds, and vegetation. In addition, expansive open areas are susceptible to destructive wildland fires, which can be exacerbated by dry weather and Santa Ana winds that can exceed 100 miles per hour.

Yucaipa's developed areas include apartments, offices, mercantile, and industrial occupancies, scattered small businesses, and industrial occupancies that have a medium to low fire hazard because most urban fires can be extinguished within a few hours (City of Yucaipa 2016). However, the existing land uses adjacent to the Project limits are either designated for open space or not fully developed or urbanized areas, and the majority of the Project limits is within designated fire-prone areas, Fire Safety Review Area 1 and Fire Safety Review Area 2. As stated in Section 3.2.15, Public Services, Response a(i) and a (ii), two fire stations are located within 1 mile of the Project limits, Fire Station #3, is located at 906 Park Avenue, and Fire Station #21, located at 34259 Wildwood Canyon Road. The area between Wildwood Wash and North County Line Road along I-10 is considered to be generally susceptible to landslides (City of Yucaipa 2016). In addition, there is a low risk level for landslides within the Project limits as there are cut slopes as high as 50 feet in the San Timoteo Formation ascending from the shoulder to the southwest of EB I-10 along the eastward I-10 segment southeast of Wildwood Wash (Caltrans 2019o).

Additional factors that may exacerbate wildfire risks include the high-pressure gas transmission and distribution pipeline, operated by SCE, that extends along I-10 and then northward along the western portion of the City and the southernmost section of the community north of I-10. If this pipeline was

disrupted or ruptured during an earthquake, the released gas could pose a significant threat in worsening or increasing fire risk.

Given these existing potential factors, the Project is within an area susceptible to fire hazards. However, I-10 is an existing facility, and the Project is a transportation project that would add a designated TCL to EB I-10. Furthermore, Project improvements would occur within existing ROW. The Project does not propose to develop land for residential, commercial, or industrial uses that may catalyze population and employment growth. Therefore, there would be no Project occupants as a result of Project implementation that would be exposed to pollutant concentrations from a wildfire or an uncontrolled spread of a wildfire under the Project. No impacts are anticipated for this issue area, and no mitigation is required.

c) Less than Significant Impact

The Project is a transportation project within an urbanized transportation corridor that seeks to enhance safety and relieve congestion. The Project would not propose additional development that would result in the need for the installation of new 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. However, as described in Section 2.12, Water Quality and Storm Water Runoff, Project construction would include improvements to existing utilities such as on-site drainage systems, which may include drain inlet extensions along I-10 to accommodate the widening of EB I-10. Implementation of these on-site Project improvements within the roadbed would not change the existing drainage patterns, would not permanently interrupt or alter the demand on existing service utilities, nor would these improvements exacerbate fire risk during operation.

Although no utility relocations are anticipated, if unforeseen relocations are determined necessary during final design, a utility relocation plan, per Measure UT-1, would be implemented to ensure that disruptions to businesses and residents would be avoided or limited to the extent practicable during construction.

In addition, construction would involve the use of grinding, welding, and other spark inducing activities adjacent to areas with vegetation which could increase the potential for a wildfire event. However, with the implementation of Measure UT-3, which would require coordination with CAL FIRE and local fire departments to identify and maintain defensible areas around construction work, and include firefighting equipment, and post emergency service numbers in all active construction areas, temporary impacts from wildfire would be minimized.

Wth the implementation of Measures UT-1 and UT-3, no significant temporary or permanent impacts on existing infrastructure from wildfire risks would occur. Therefore, impacts are considered less than significant, and no mitigation is required.

d) Less than Significant Impact

As discussed in Section 3.2.10, Hydrology and Water Quality, the Project would propose a new roadway hardscape area, which would result in a permanent increase in impervious surfaces and a permanent increase in runoff and pollutant loading. The Project would increase the impervious area by approximately 7.30 acres, which would increase the amount of runoff from I-10 within the Project limits. Impervious surface areas increase peak flows and runoff volumes, which increase the potential for erosion and sedimentation in surface waters. Because the Project would increase the amount of impervious surfaces by widening I-10, it could result in an increase in the amount of polluted stormwater runoff. However, the Project would accommodate existing uses as the existing drainage facilities would be protected in place and/or upgraded, where applicable, to accommodate the proposed roadway widening. In addition, the Project would incorporate design pollution BMPs that include preservation of existing vegetation and surface protection systems (permanent soil stabilization). Furthermore, as stated in Section 3.2.7, Geology and Soils, there is low risk of landslides within the Project limits as site-specific conditions include 50-foot-high cut slopes in San Timoteo Formation. Therefore, impacts are considered less than significant, and no mitigation is required.

3.2.21 Mandatory Findings of Significance

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.2.21.1 CEQA Significance Determinations for Mandatory Findings of Significance

a) Less than Significant with Mitigation Incorporated

Biological Resources

The BSA includes three patches of Disturbed Buckwheat Scrub that provide marginally suitable habitat for the federal and state endangered Nevin's barberry and the non-listed special-status plant species mesa horkelia and Parry's spineflower. However, these species were not observed within the BSA during the November 2017 site visit. These species also have a low potential to occur in Disturbed Buckwheat Scrub habitat within the BSA, and soils here may be too compacted to support the species. Project construction could result in minor temporary impacts on suitable habitat for these species, including dust, erosion, introduction of invasive species on disturbed soils, and roadway runoff. Implementation of BMPs in accordance with the SWPPP and Caltrans policy, as outlined in WQ-1 through WQ-5 and NC-1, would minimize temporary impacts during construction to potentially suitable habitat.

No federally listed endangered or threatened wildlife species were observed within the BSA during the November 2017 surveys; however, CAGN, Swainson's hawk, SWFL, and LBVI have a low potential to occur within 500 feet of the BSA, as potentially suitable habitat was identified within the 500-foot ESA buffer. The BSA does not support suitable habitat or occurs outside of the geographical range to support any other listed wildlife species. Implementation of Measures NC-1 through NC-4, Measure AS-1, and Measure TE-2 would minimize temporary impacts on these species and other non-listed nesting birds during construction activities, including habitat protection, prevention of invasive species, fire protection, equipment maintenance to prevent spills or leaking of fuel or oil on site, and preconstruction surveys under the Project.

For other special-status California SSC; such as the BUOW, pallid bat, western mastiff bat, and western yellow bat; preconstruction surveys, avoidance buffers, and a bat mitigation plan would be implemented with Measures AS-2 through AS-4.

Historical/Cultural/Archaeological/Paleontological Resources

No historic or archaeological resources were located within the APE. Geological and archaeological data indicate undisturbed sediments within the APE and are characterized by alluvial axial-valley deposits and wash sediments with a low sensitivity for intact and significant buried archaeological resources. Construction activities within the present roadway alignments are not expected to extend into undisturbed sediments. While excavations for the geotechnical boreholes adjacent to the Oak Glen Creek Bridges have the potential to impact native soils, the sediments in this area, as stated, are characterized by having a low sensitivity for intact and significant buried archaeological resources. Although there is little to no potential for encountering intact and significant subsurface cultural deposits during construction, implementation of Measure CR-1 would reduce the likelihood of significant effects related to temporary impacts associated with cultural resources discovered during Project construction. Additionally, implementation of Measure CR-2 would minimize any potential disturbance to human remains that may be discovered during Project construction.

Most ground disturbance would be limited to areas within presently developed roadways and their disturbed underlying surfaces, as well as surfaces already partially disturbed within Caltrans and City ROW of approximately 40 inches to 3 feet bgs. As discussed in Section 3.2.8, Greenhouse Gas Emissions, Response (f), shallow excavations are not anticipated to impact paleontological resources.

Excavations for signage foundations to a depth of 6 feet bgs could potentially impact paleontological resources; however, these excavations are not anticipated to exceed 8 inches in diameter, and only a few are proposed throughout the Project limits. Because ground disturbance would be limited to such a small total volume, excavations for the signage foundations are unlikely to impact paleontological resources.

Excavations for the foundations of the cantilever signs to approximately 33 feet bgs are more likely to impact intact and paleontological significant resources and would require monitoring and mitigation, as outlined in Measure PAL-1.

In addition, during excavation activities, it is possible that new and unanticipated paleontological resources might be encountered in areas currently determined to have low potential. If this occurs, a qualified Principal Paleontologist would need to evaluate each paleontological resource. If the paleontological resource is determined to be significant, monitoring and mitigation would be

required, as identified in Measure PAL-2. With the implementation of Measures PAL-1 and PAL-2, impacts are considered less than significant with mitigation incorporated.

b) Less than Significant Impact with Mitigation Incorporated

As discussed in Section 2.25, Cumulative Impacts, topics pertaining to the human environment are not anticipated to result in significant cumulative impacts; therefore, cumulative impacts on the human environment are less than significant. Cumulative impacts relating to the physical environment may result in significant cumulative impacts. Within the Project limits and surrounding area, there are geologic units with a high potential to contain significant non-renewable paleontological resources. Excavation activities within these geologic units with high potential for paleontological resources would increase the potential to discover and damage significant paleontological resources. However, as discussed in Section 3.2.7, Response f, implementation of Measures PAL-1 and PAL-2 would reduce the impact to less than significant. Therefore, cumulative impacts on the physical environment are less than significant with mitigation incorporated. In addition, impacts on the biological environment are anticipated to be less than significant and not result in cumulative impacts. Therefore, no cumulative impacts are anticipated with regard to the biological environment as a result of the Project. With the inclusion of avoidance, minimization, and/or mitigation measures referenced in Section 2.25, Cumulative Impacts, the Project would not have impacts that are individually limited but cumulatively considerable. Therefore, impacts are considered less than significant with mitigation incorporated.

c) Less than Significant Impact

The Project would improve safety and operational characteristics by separating trucks and other slow-moving vehicles from faster moving passenger vehicles on an additional portion of EB I-10 that includes steep uphill grades. Conflicts between slow- and fast-moving vehicles would be reduced by providing a dedicated TCL. Typical of roadway projects, construction impacts related to aesthetics, noise, detours, and dust would occur; however, these impacts would be minimized through implementation of a TMP per Measure TR-1, as identified in Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities; Measures HAZ-1 and HAZ-2, identified in Section 2.15, Hazardous Waste and Materials; AQ-1 through AQ-3, identified in Section 2.16, Air Quality; and N-1 through N-3, identified in Section 2.17, Noise. Incorporation of these measures would avoid and minimize indirect impacts on the community during construction. Therefore, impacts are considered less than significant, and no mitigation is required.

3.3 Wildfire

3.3.1 Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

3.3.2 Affected Environment

Based on the review of the Fire Hazard Severity Zones Maps provided by the State of California and the Department of Forestry and Fire Protection, no areas within the Project limits were located within an area of Very High Fire Hazard Severity Zone within State and Federal Responsibility Areas and the Local Responsibility Areas.

However, based on the review of the City of Yucaipa General Plan and the City of Calimesa General Plan, the area within the Project limits within the City of Yucaipa is located within Fire Safety Review Area 1, which is considered an area with very high fire severity zones. The area within the Project limits in the City of Yucaipa is also located within Fire Safety Review Area 2, which is an area that is considered vulnerable to fire due to proximity to Fire Safety Review Area 1 areas (City of Yucaipa 2016). The area of the Project limits located within Fire Safety Review Area 1 consists of a 0.75 mile stretch south of the 16th Street overcrossing. The remaining portions of the Project limits are located within Fire Safety Review Area 2.

The Project limits are not within Fire Hazard Severity Zones in the City of Calimesa. Both cities have hazard mitigation plans for their respective jurisdictions. In addition, the County of San Bernardino and County of Riverside implement multi-jurisdictional hazard mitigation plans at the county level. Table 3 4, below, summarizes the purpose of each plan.

Table 3-4. Emergency Response Plan Summary

Emergency Response Plan	Purpose
City of Yucaipa Hazard Mitigation Plan Update	The purpose of this plan is to continue to assess the significant natural and manmade hazards that may affect the City and its inhabitants, evaluate and incorporate ongoing mitigation activities and related programs in the community, determine additional mitigation measures that should be undertaken, and outline a strategy for implementation of mitigation projects.
City of Calimesa Local Hazard Mitigation Plan	The purpose of this local hazard mitigation plan is to identify the County of Riverside's hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards. The plan identifies vulnerabilities, provides recommendations for prioritized mitigation actions, evaluates resources and identifies mitigation shortcomings, and provides future mitigation planning and maintenance of existing plan.
County of San Bernardino Multi-Jurisdictional Local Hazard Mitigation Plan	The purpose of the Multi-Jurisdictional Hazard Mitigation Plan is to demonstrate the plan for reducing and/or eliminating risk in the unincorporated area of the county and within areas overseen or managed by the Flood Control District, Fire District, and Special Districts Department. The Multi-Jurisdictional Hazard Mitigation Plan process encourages communities within the unincorporated county to develop goals and projects that will reduce risk and build a more disaster-resilient community by analyzing potential hazards.
County of Riverside Multi-Jurisdictional Local Hazard Mitigation Plan	The purpose of this plan is to identify the county's hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards.

3.3.3 Environmental Consequences

3.3.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

No improvements would occur under Alternative 1 (No-Build Alternative); therefore, no temporary effects related to wildfire within the Project limits would occur.

Alternative 2 (Build Alternative)

Because the Project limits are located within an area designated as a Fire Safety Review Area, maintaining circulation and access is critical during construction activities in the event of a wildfire. There may be temporary impacts on vehicular flow in the Project limits during Project construction. However, with the implementation of a TMP identified in Measure TR-1, local access via on- and off- ramps to residences and businesses would be maintained at all times. With implementation of the TMP, the Project would avoid or minimize any delays or disruptions to emergency response

vehicle or evacuation route access during construction. Therefore, with the implementation of Measure TR-1, no adverse effects are anticipated.

3.3.3.2 Permanent Impacts

Although the Project is located within a very high fire severity zone as designated by the City of Yucaipa, the Project is limited to improvements within an existing transportation corridor. As such, the Project would not induce development, contribute to growth, or construct new structures within the area. As a result, there would be no increase in human presence that could potentially lead to an increase in fires, and any potential risks to people or structures as a result of geologic, soil-related, seismic, and topographical conditions would be minimized with the implementation of Measure GEO-1. Therefore, it is unlikely that the Project would further exacerbate wildfire risks or post-fire flooding and/or landslides within the Project limits during operation of the Project.

In addition, once construction is complete, the Project would improve the existing operational characteristics for trucks and other slow-moving vehicles and reduce weaving and truck accident frequency. Improvements to traffic operation and safety on EB I-10 as part of the Project are anticipated to reduce congestion along EB I-10, which would provide an overall benefit to emergency access and response times to the surrounding area.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Refer to Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities, for Measure TR-1 and Section 2.13, Geology/Soils/Seismic/Topography, for Measure GEO-1. No additional avoidance, minimization, and/or mitigation measures are recommended.

3.4 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

3.4.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

3.4.1.1 Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that

assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. The Energy Policy and Conservation Act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

The Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. EPA[1] in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

3.4.1.2 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

[1] U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

- EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill 32 in 2016.
- AB 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (CARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.
- EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.
- Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it would achieve the emissions target for its region.
- Senate Bill 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.
- EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.
- EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG

emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e). [2] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

- Senate Bill 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.
- Senate Bill 1386, Chapter 545, 2016, declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."
- AB 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.
- Senate Bill 743**,** Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles travelled, to promote the state's goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.
- Senate Bill 150**,** Chapter 150, 2017, Regional Transportation Plans: This bill requires CARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

[2] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

- EO B-55-18, (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.
- EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

3.4.2 Environmental Setting

The Project is in an urban area of southern San Bernardino County with a well-developed road and street network. The Project area's suburban setting includes commercial, commercial/industrial, open space, and some residential land uses. I-10 is a major east to west urban corridor and commuter route between Los Angeles and San Bernardino and Riverside Counties and carries a large volume of commercial trucks. Traffic congestion during peak hours is not uncommon in the Project area. The 2020-2045 RTP/SCS guides transportation and housing development in the Project area.

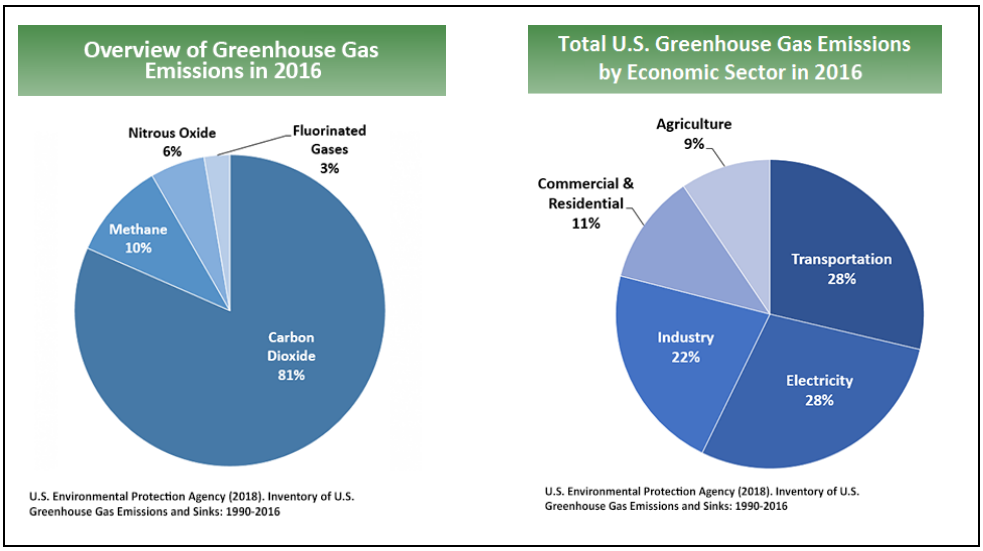
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state, as required by H&SC Section 39607.4.

3.4.2.1 National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks," such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). As shown on Figure 3-1, the 1990–2016 inventory found that of 6,511 $MMTCO_2e$ GHG emissions in 2016, 81 percent consist of CO2, 10 percent are CH_4, and 6 percent are N_2O; the balance consists of fluorinated gases (EPA 2018). In

2016, GHG emissions from the transportation sector accounted for nearly 28.5 percent of U.S. GHG emissions.

Figure 3-1. U.S. 2016 Greenhouse Gas Emissions



3.4.2.2 State GHG Inventory

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. As shown on Figure 3-2, 2019 edition of the GHG emissions inventory found total California emissions of 424.1 $MMTCO_2e$ for 2017, with the transportation sector responsible for 41 percent of total GHGs. As shown on Figure 3-3, it also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (CARB 2019a).

Figure 3-2. California 2017 Greenhouse Gas Emissions

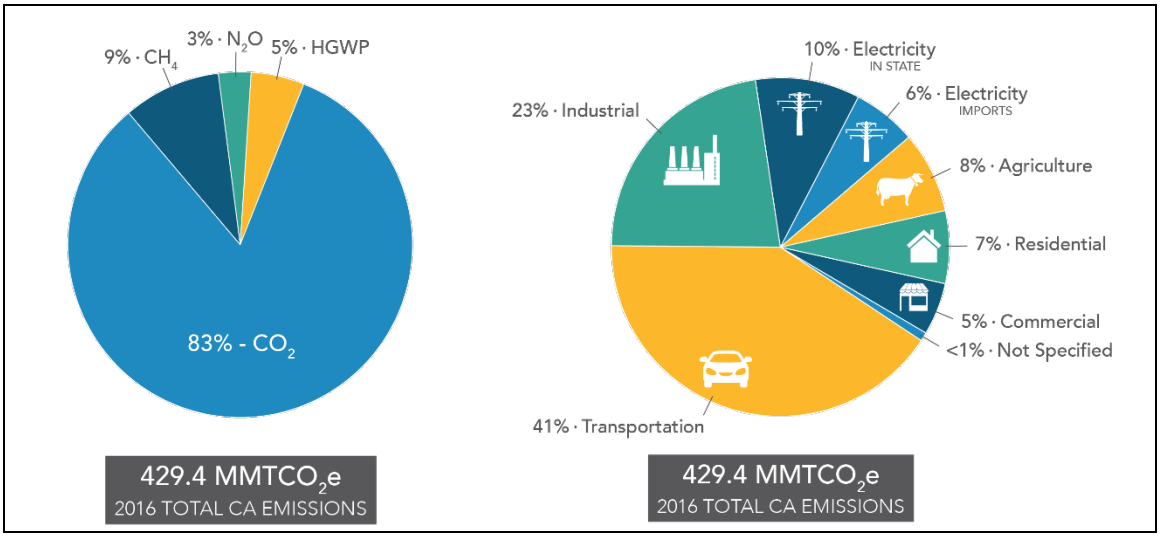
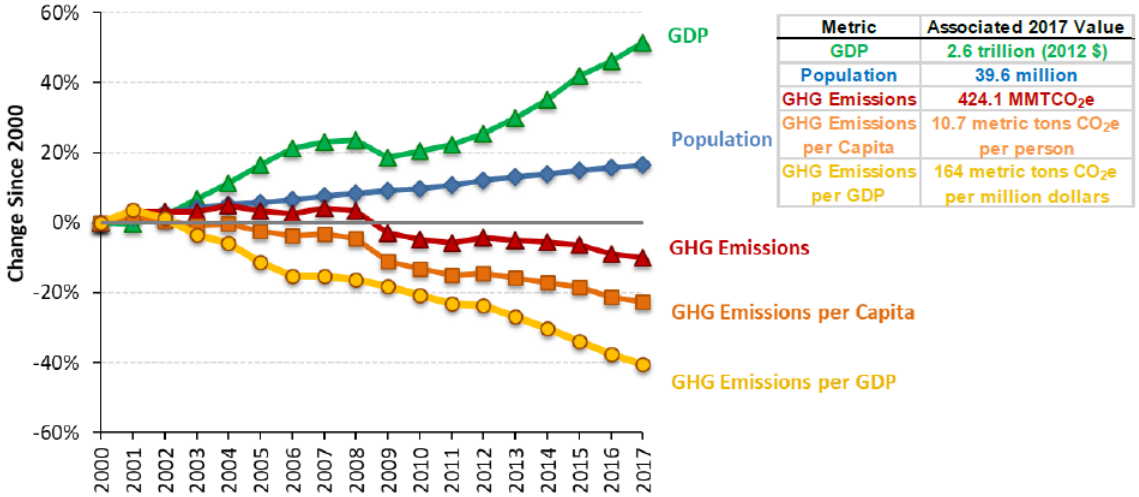


Figure 3-3. Change in California GDP, Population, and GHG Emissions since 2000



Source: CARB 2019b

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. CARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and Senate Bill 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

3.4.2.3 Regional Plans

CARB sets regional targets for California's 18 MPOs to use in their RTP/SCSs to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed Project is included in the 2020-2045 SCAG RTP/SCS. The regional reduction target for the SCAG region is 8 percent for 2020 and 19 percent for 2035.

The *San Bernardino County Non-Motorized Transportation Plan* (SBCTA 2011) encourages increased bicycle and pedestrian access and improved safety for those users. The *City of Yucaipa General Plan* contains policies related to a well-integrated bike and pedestrian network, rehabilitation of all components of the circulation system, multimodal facilities, and Complete Streets (Table 2.2-1 in Section 2.2, Consistency with State, Federal, Regional, and Local Plans and Policies).

3.4.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). 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.” (Cleveland National Forest Foundation *v.* San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130)).

To make this determination, the incremental impacts of the Project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

The following discussion incorporates the results of the *Air Quality Analysis Report* (Caltrans 2019g) prepared for the Project. The *Air Quality Analysis Report* contains detailed methodology, modeling files, and calculation worksheets.

3.4.4 Operational Emissions

CO_2 accounts for 95 percent of transportation GHG emissions in the U.S. The largest sources of transportation-related GHG emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of GHG emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, and trains, as well as pipelines and lubricants. Because CO_2 emissions represent the greatest percentage of GHG emissions it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

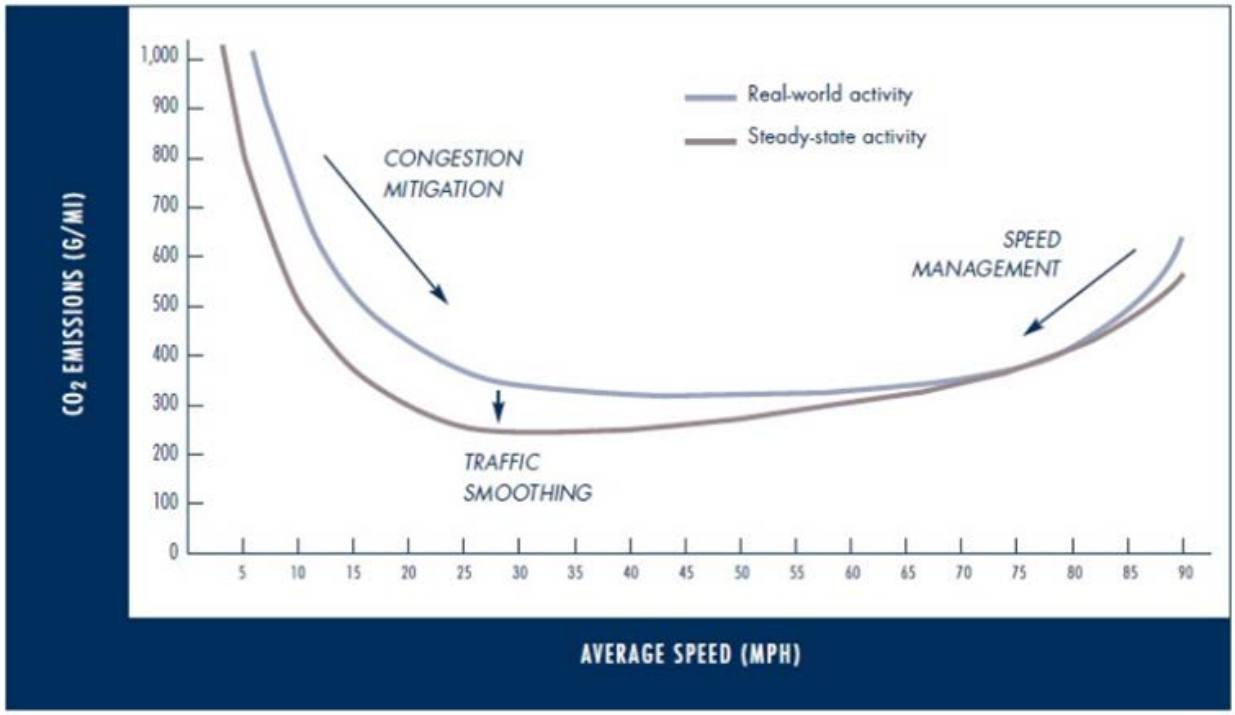
As shown on Figure 3-4, the highest levels of CO_2 from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (Figure 3-4). To the extent that a project relieves

congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO_2, may be reduced.

Four primary strategies can reduce GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued concurrently.

The Project is not expected to generate new vehicular traffic trips. However, there is a possibility that some traffic currently utilizing other routes would be attracted to use the improved road. Therefore, under Alternative 2 (Build Alternative), there would be localized areas where VMT would increase when compared with Alternative 1 (No-Build Alternative), which could contribute to increased GHG emissions. However, compared with the existing condition, these increases would be substantially reduced in the future because of implementation of fuel regulations, improved fleet average fuel economy, and the gradual removal of older vehicles from the roads (see Section 3.4.4.1, Quantitative Analysis, for supporting data).

Figure 3-4. Possible Use of Traffic Operation Strategies in Reducing On-Road Carbon Monoxide Emissions



Source: Barth and Boriboonsomsin 2010

3.4.4.1 Quantitative Analysis

The regional VMT data for the existing condition, Alternative 1 (No-Build Alternative), and Alternative 2 (Build Alternative), along with the EMFAC2017 emission rates, were used to calculate the CO_2e emissions for the existing (2017), 2025, and 2045 conditions. The results of the modeling are summarized in Table 3-5. When compared with Alternative 1 (No-Build Alternative), Alternative 2 (Build Alternative) would result in a minimal increase in emissions in both 2025 and 2045 conditions. However, although the 2025 and 2045 annual VMT would be 13 to 33 percent higher, when compared with the existing conditions, the annual GHG emissions would decrease by 9 to 16 percent. These reductions are due to the implementation of fuel regulations, improved fleet average fuel economy, and the gradual removal of older vehicles from the roads.

Table 3-5. Modeled Annual Carbon Dioxide Equivalent Emissions and Vehicle Miles Traveled, by Alternative

Alternative	CO_2e Emissions (MT/year)	Annual VMT[a]
Existing/Baseline (2017)	113,317	274,702,550
Open to Traffic (2025)		
Alternative 1 (No-Build Alternative)	103,049	309,641,980
Alternative 2 (Build Alternative)	103,355	310,561,530
Horizon/Design-Year (2045)		
Alternative 1 (No-Build Alternative)	92,029	351,181,350
Alternative 2 (Build Alternative)	95,678	365,106,460

Source: Caltrans 2019g

Notes:

[a] Annual VMT values derived from daily VMT values multiplied by 347 (CARB 2008).

CO_2e=carbon dioxide equivalent; MT=metric tons; VMT=vehicle miles traveled

While EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data.[3] Moreover, the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. GHG emissions quantified using EMFAC are, therefore, estimates and may not reflect actual physical emissions. Though EMFAC is currently the best available tool for use in calculating GHG emissions, it is important to note that the GHG results provided are only useful for a comparison among alternatives.

[3] This analysis does not currently account for the effects of the US National Highway Traffic Safety Administration and Environmental Protection Agency SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule. Part One revoking California's authority to set its own greenhouse gas emissions standards was published on September 27, 2019 and effective November 26, 2019. The SAFE Vehicles Rule Part 2 would amend existing Corporate Average Fuel Economy (CAFE) and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026. The proposal would retain the model year 2020 standards for both programs through model year 2026. Although CARB has not yet provided adjustment factors for greenhouse gas emissions to be utilized in light of the SAFE Rule, modeling these estimates with EMFAC2017 or CT-EMFAC2017 remains the most precise means of estimating future greenhouse gas emissions.

3.4.5 Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

The construction emissions were estimated for the Project using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0. While the model was developed for Sacramento conditions in terms of fleet emission factors, silt loading, and other modeling assumptions, it is considered adequate for estimating road construction emissions by the SCAQMD in its CEQA guidance and is used for that purpose in this analysis. Construction-related emissions for the Project are presented in Table 3-6. The emissions are based on the best information available at the time of calculations and assume that the schedule for all improvements is anticipated to begin in 2020 and end in 2023 (36 months). Default equipment assumptions for the Road Construction Emissions Model were used in developing the emissions estimates.

Table 3-6. Construction Emissions for Alternative 2 (Build Alternative)

Project Phase	CO_2e (MT/phase)
Grubbing/land clearing	163.33
Grading/excavation	1,956.39
Drainage/utilities/sub-grade	955.43
Paving	319.98
Maximum daily or average daily	1,956.39
Project total (tons)	3,395.12

Source: Caltrans 2019g

Notes:

CO_2e emissions are estimated by multiplying mass emissions for each GHG by its GWP, 1 , 25 and 298 for CO2, CH_4 and N_2O, respectively. Total CO_2e is then estimated by summing CO_2e estimates over all GHGs. The CO_2e emissions are reported as MTs per phase.

CO_2e= carbon dioxide equivalent; GWP=global warming potential; MT=metric tons

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions. In addition, a TMP would be implemented during construction to minimize delays and idling.

3.4.6 CEQA Conclusion

To determine whether GHG emissions from affected projects are adverse, project emissions must include direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. For the Project's analysis, construction emissions were amortized over the life of the Project (defined as 30 years), added to the operational emissions, and compared with the existing and Alternative 1 (No-Build Alternative) conditions. Table 3-6 quantifies the expected GHG emissions from construction activities for Alternative 2 (Build Alternative). As shown in Table 3-6, construction of Alternative 2 (Build Alternative) would generate 3,395 MT of CO_2e. Amortized over a 30-year period, the yearly contribution to GHG from construction would be 113 MT

of CO_2e. When compared with Alternative 1 (No-Build Alternative), Alternative 2 (Build Alternative) would increase the GHG emissions by 306 MT of CO_2e per year in 2025 and 3,649 MT of CO_2e per year in 2045. Therefore, the combined construction and operational GHG emissions of the Project would be 419 to 3,762 MT of CO_2e per year. When compared with the existing (2017) conditions, Alternative 2 (Build Alternative) would reduce the GHG emissions by 9,962 MT of CO_2e per year in 2025 and 17,639 MT of CO_2e per year in 2045. Therefore, because there is a reduction in future emissions compared with existing emissions, there is evidence of substantial progress in reducing emissions, and the impact may be considered less than significant.

The following discusses the consistency of the Project to the state's GHG reduction goals, the *Climate Change Scoping Plan* (CARB 2008), and 2020-2-45 RTP/SCS (SCAG 2020).

3.4.6.1 Consistency with the Long-Term Goal of Assembly Bill 32 and Senate Bill 32

AB 32 established a 2020 target of 1990 emission levels by 2020 (CARB Climate Change Scoping Plan and 2014 update), and Senate Bill 32 established a 2030 target of 40 percent below 1990 levels by 2030 (CARB Climate Change Scoping Plan 2017 update). Strategies to achieve these statewide targets are outlined in the *Climate Change Scoping Plan*, the state's plan for mitigating the impacts of climate change. As shown in Table 3-5, Alternative 1 (No-Build Alternative) and Alternative 2 (Build Alternative) emissions are 9 and 16 percent lower than the existing baseline in 2025 and 2045, respectively. Therefore, the Project would be consistent with the long-term goal of AB 32 and Senate Bill 32.

3.4.6.2 California Air Resources Board Climate Change Scoping Plan

In accordance with AB 32, CARB developed the *Climate Change Scoping Plan* to outline the state's strategy to achieve 1990-level emissions by year 2020. Since adoption of the 2008 and 2017 scoping plans, state agencies have adopted programs identified in the scoping plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the LCFS and changes in the CAFE standards (e.g., Pavley I and 2017–2025 CAFE standards). These statewide measures are applicable uniformly throughout the state, and all future on-road vehicles would be in compliance. Therefore, the Project would be consistent with the scoping plan.

3.4.6.3 Southern California Association of Government 2016 Regional Transportation Plan/Sustainable Communities Strategy

SCAG's 2020-2045 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in Southern California. The 2020-2045 RTP/SCS incorporates local land-use projections and circulation networks in city and county general

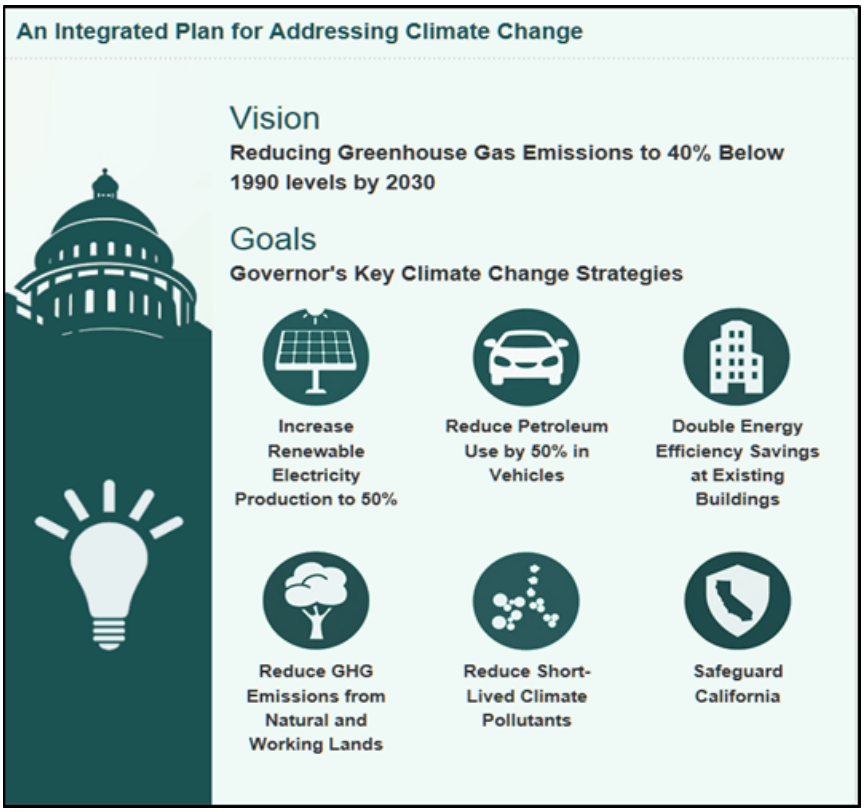
plans. The projected regional development pattern, including locations of land uses and residential densities included in local general plans, when integrated with the proposed regional transportation network identified in the 2020-2045 RTP/SCS, would reduce per capita vehicular travel-related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region of 8 percent per capita from 2005 GHG emission levels by 2020 and 19 percent per capita from 2005 GHG emission levels by 2035. The strategies, programs, and projects outlined in the 2020-2045 RTP/SCS are projected to result in GHG emissions reductions in the SCAG region that meet or exceed these targets. The Project is included in the 2020-2045 SCAG RTP/SCS. Therefore, the Project is consistent with the 2020-2045 RTP/SCS.

3.4.7 Greenhouse Gas Reduction Strategies

3.4.7.1 Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of CH_4, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

Figure 3-5. California Climate Strategy



The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. GHG emission reductions would come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, Senate Bill 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

3.4.7.2 Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and Senate Bill 32 (2016), set a new interim target to cut GHG

emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the California Transportation Plan 2040, which establishes a new model for developing ground transportation systems, consistent with CO_2 reduction goals.. It serves as an umbrella document for all of the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

Senate Bill 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multi-modal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the state's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

3.4.7.3 Project-Level Greenhouse Gas Reduction Strategies

The following measures (referenced under 3.2.8, Greenhouse Gas Emissions) will also be implemented to reduce GHG emissions and potential climate change impacts from the Project.

GHG-1 During construction, SBCTA will ensure that idling will be limited to 5 minutes for delivery and dump trucks and other diesel-powered equipment.

GHG-2 During construction, SBCTA will ensure that truck trips are scheduled outside of peak morning and evening commute hours.

GHG-3 During construction, SBCTA will ensure that construction waste is minimized and the use of recycled materials maximized, which reduces consumption of raw materials, reduces landfill waste, and encourages cost savings.

GHG-4 During construction, SBCTA will ensure that measures to reduce consumption of potable water will be incorporated.

GHG-5 During construction, SBCTA will ensure that on-site recycling of existing project features is encouraged, such as metal beam guard railing, light standards, sub-base granular material, or native material that meets Caltrans specifications for incorporation into new work.

GHG-6 During construction, SBCTA will ensure that earthwork balance be implemented to reduce the need for transport of earthen materials by balancing cut and fill quantities.

GHG-7 During construction, SBCTA will ensure that the need for electric lighting by using ultra-reflective sign materials that are illuminated by headlights is reduced.

GHG-8 SBCTA will ensure that measures are incorporated to improve energy efficiency will be implemented.

GHG-9 SBCTA will ensure that installation of solar to supply power to highway facility components or buildings will be implemented.

3.4.8 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects would vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

3.4.8.1 Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. Ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (USDOT 2011).

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events,* December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems.

FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA n.d.).

3.4.8.2 State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the state's latest effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multi-disciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multi-disciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

3.4.8.3 Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

3.4.8.4 Project Adaptation Analysis

Sea-Level Rise

The Project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts on transportation facilities due to projected sea-level rise are not expected.

Floodplains

As discussed in Section 2.11, Hydrology and Floodplain, the Project is located in the Yucaipa Creek Watershed, which is a subwatershed of the San Timoteo Creek Watershed. Three waterbodies are located within the Project limits: Wilson Creek, Yucaipa Creek, and Wildwood Wash. All three waterbodies are natural bottom creeks with water originating from the San Bernardino Mountains and are tributaries to the Santa Ana River.

The FEMA FIRM Panels 06071C8740H and 06065C0114G show the Project limits located within the following flood zones, as shown on Figure 2.11-1:

- Zone AE includes areas subject to inundation by the 1 percent annual chance flood event determined by detailed methods (100-year flood level).
- Zone AO includes areas subject to inundation by the 1 percent annual chance flood event, where average depths are between 1 and 3 feet (100-year flood level).
- Zone D includes unstudied areas where flood hazards are undetermined but flooding is possible.

- Zone X (or 0.2 percent annual chance flood hazard) includes areas of minimal flood hazard (usually depicted on FEMA FIRM Maps as the 500-year flood level).

Per the FEMA FIRM, Wilson Creek, Yucaipa Creek, and Wildwood Wash are waterbodies that have been designated as flood hazard areas associated with 100-year floodplains.

Under Alternative 2 (Build Alternative), the bridge at the I-10 crossing for Wilson Creek would be expanded in the median to accommodate the new TCL. The EB mainline bridge (Bridge No. 54-0648R) and the WB mainline bridge (Bridge No. 54-0648L) would be connected to fully cover Wilson Creek below I-10. With regard to Project conditions, there would be a low impact on the hydraulics from the existing to proposed conditions, leading to low overtopping potential.

The floodplain for Wilson Creek would remain within the current channel with the proposed conditions, and the proposed improvements can be classified as low risk. No changes to the bridge or culvert crossing at Yucaipa Creek and Wildwood Wash would be required. Therefore, as no change to base flood flow volumes and rates would occur, no effects on floodplains associated with Yucaipa Creek and Wildwood Wash would occur.

Wildfire

As mentioned in Section 3.2.20, Wildfire, the Project limits are not adjacent to any state responsibility areas as designated by CAL Fire. According to the *City of Yucaipa General Plan*, the Project limits contain areas within Fire Safety Review Area 1, which are considered very high fire severity zones, and Fire Safety Review Area 2, which are considered areas of lands vulnerable to fire due to proximity to Fire Safety Review Area 1 areas (City of Yucaipa 2016). Project improvements would occur within existing ROW. The Project does not propose to develop land for residential, commercial, or industrial uses that may catalyze population and employment growth. There would be no Project occupants as a result of Project implementation that would be exposed to pollutant concentrations from a wildfire or an uncontrolled spread of a wildfire under the Project.

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4 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and level of analysis required, as well as identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this Project have been accomplished through a variety of formal and informal methods, a planned public meeting, the issuance of a public notice, and monthly Project Development Team (PDT) meetings. This chapter summarizes the results of Caltrans; and efforts to fully identify, address, and resolve Project-related issues through early and continuing coordination.

4.1 Consultation and Coordination with Public Agencies and Tribal Governments

4.1.1 Native American Consultation

Table 4-1 documents the current status of the coordination and consultation that has occurred as part of the Project with Native American tribes, groups, and individuals.

Table 4-1. Native American Consultation and Coordination

Consulting Party	Timing	Activity
Native American tribes, groups, and individuals	October 9, 2017 March 2, 2018 April 3, 2018 April 11, 2018 May 7, 2018 June 6, 2018	On September 20, 2017, Caltrans' qualified archaeologist consulted with NAHC to elicit pertinent cultural resource information available in the Sacred Lands File. NAHC responded September 27, 2017, stating the Sacred Lands File search for the Project was completed, and the results were negative, but the area is sensitive for cultural resources. As a result, NAHC provided a list of Native American contacts within the region for follow-up. After review of the list of Native American contacts provided by NAHC, Caltrans' District 8 Native American coordinator initiated Section 106 contact with the following individuals through a letter dated October 9, 2017: • Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians – Kizh Nation

Table 4-1. Native American Consultation and Coordination

Consulting Party	Timing	Activity
		• Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians • Sandonne Goad, Chairperson, Gabrielino/Tongva Nation • Robert Dorame, Chairperson, Gabrielino Tongva Indians of California Tribal Council • Lee Clauss,, Director of Cultural Resources, San Manuel Band of Mission Indians • Goldie Walker, Chairperson, Serrano Nation of Mission Indians • Joseph Ontiveros, Cultural Resource Department, Soboba Band of Luiseño Indians The letters also served as formal notification of the Project as required under CEQA, specifically PRC 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., Assembly Bill 52). The letters provided a Project description and location and discussed upcoming cultural resources studies of the Project area. The first round of follow-up phone calls and emails was conducted March 2, 2018. A second round of follow-up emails and phone calls was completed April 3 and April 11, 2018, respectively. A third round of follow-up emails was conducted May 7, 2018, and a final round of follow-up emails was conducted June 6, 2018. A summary of the responses received as a result of this correspondence is provided below. • Joseph Ontiveros, a member of the Cultural Resource Department for the Soboba Band of Luiseño Indians, requested to consult with Caltrans pursuant to Section 106. The Project is within the Tribe's traditional use area and is within close proximity to known sites that are considered culturally sensitive by the Tribe. The Tribe requested that Native American monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department be present during any Project-related ground disturbance. On March 25, 2019, Caltrans sent a notice of Project footprint reduction letter to Joseph Ontiveros. Because no further response was received from Joseph

Table 4-1. Native American Consultation and Coordination

Consulting Party	Timing	Activity
		Ontiveros regarding the Project, Caltrans deemed consultation complete. • Lee Clauss, Director of Cultural Resources for the San Manuel Band of Mission Indians, requested to consult with Caltrans pursuant to Section 106 and Assembly Bill 52. The Project is within Serrano ancestral territory and, as such, it is of interest to the Tribe. The Tribe requested additional Project plans and a more detailed Project description to assess the Tribe's level of concern regarding the Project. On March 25, 2019, Caltrans sent a notice of the Project footprint reduction letter to Lee Clauss. Because no further response was received from Lee Clauss regarding the Project, Caltrans deemed consultation complete. • Goldie Walker, Chairperson of the Serrano Nation of Mission Indians, stated she was ill and hospitalized and in no condition to discuss the Project. Goldie Walker noted that her son, Mark Cochran, may be able to call at a later date. Goldie Walker passed away in April 2018. Future Project correspondence will go to Goldie Walker's son, Mark Cochran. Caltrans will send Mark Cochran a copy of the final IS/EA for the Project. Consultation and concurrence by the SHPO on the findings of the HPSR (Applied EarthWorks, Inc. 2019a) is required and will be completed prior to the finalization of the environmental document.

Notes:
Caltrans=California Department of Transportation; CEQA=California Environmental Quality Act; EA=environmental assessment; HPSR=Historic Property Survey Report; IS=initial study; NAHC=Native American Heritage Commission; PRC=Public Resources Code; SHPO=State Historic Preservation Officer

4.1.2 Resource Agencies

No consultation with resource agencies has been initiated for the Project to date. This chapter will be updated as we receive responses from agencies, when consultation begins, or if we have any

documentation to show progress in relation to permitting. Table 1-3 includes permits, reviews, and approvals that will be required prior to the construction of the Project.

4.1.3 Community Outreach and Public Involvement

4.1.3.1 Project Development Team Meetings

A PDT was identified to ensure collaborative communication among the stakeholders, which includes representatives from Caltrans and SBCTA. PDT meetings have occurred on a monthly basis at Caltrans District 8 offices and are attended by the engineering and environmental consultant teams from the City and Caltrans. The larger PDT consists of engineers, environmental generalists, biologists, archaeologists, paleontologists, and air quality and noise specialists. Monthly PDT meetings are still ongoing. Additional details regarding future PDT meetings will be included within this chapter when available.

4.1.3.2 Public Participation

As discussed above, PDT meetings between representatives from Caltrans and SBCTA have been held to discuss the status of the Project; however, no public hearings or workshops have occurred thus far. A virtual public hearing will be held as part of the community outreach process and will be documented.

4.2 Comments and Responses

Once the Draft IS/EA has been approved for public circulation, the Draft IS/EA and a public notice will be distributed to local agencies, regional agencies, and utility providers affected by the Project. In addition, property owners directly affected by the Project will also be provided with a public notice of the document. There will be a 30-day public review period.

Hardcopies of the Draft IS/EA will be available for public review at the City of Yucaipa Department of Public Works office and the SBCTA office. Chapter 6, Distribution List, provides additional information about where and to whom the document was distributed to.

If comments are received on the Draft IS/EA during the public review period and/or during the virtual public hearing, the Final IS/EA will be modified to reflect all substantive comments and responses to those comments.

5 List of Preparers

This IS/EA was prepared by Caltrans District 8 and SBCTA with assistance from the consultant team.

The following individuals were involved in the preparation of this IS/EA.

5.1 California Department of Transportation, District 8

Mahmuda Akhter, Project Manager

Andrew Pachol, Assistant Project Manager

Antonia Toledo, Senior Environmental Planner, Environmental Studies Branch D

Hannah Duarte, Environmental Planner, Environmental Studies Branch D

Olufemi Odufalu, Senior Transportation Engineer, Air Quality Branch

Andrew Walters, Senior Environmental Planner, Environmental Support/Cultural Studies

Gary Jones, Principal Investigator, Prehistoric Archaeology

Dicken Everson, Principal Investigator, Prehistoric and Historical Archaeology

Craig Wentworth, Senior Environmental Planner, Biological Studies and Surveys

Alisha Curtis, Associate Environmental Planner, Biological Studies and Surveys

Josh Jaffery, Senior Biological Liaison for Construction and Mitigation

Bahram Karimi, Associate Environmental Planner/Paleontology Coordinator

Rose Bishop, Landscape Architect, Landscape Architecture

Aysha Habib, Design Oversight

5.2 San Bernardino County Transportation Authority

Paul Melcoloton, Project Manager

Dennis Saylor, Project Manager

5.3 HDR Engineering, Inc.

Mark Hager, Project Manager

Julian Hernandez, Deputy Project Manager/Engineering Lead

Angie Kung, Environmental Section Manager/Environmental Lead

Uyenlan Vu, Deputy Environmental Project Manager

Kelly Czechowski, Deputy Environmental Project Manager

Keith Lay, Senior Air Quality and Noise Specialist

Elaine Lee, Associate Environmental Planner

Natalie Brim, Environmental Planner

Ingrid Eich, Environmental Section Manager – Biological Resources

Sarah Barrera, Senior Biologist

Doug Smith, Traffic Engineering Lead

June Duan, Senior Traffic Engineer/Analyst

April Cottini, Senior Landscape Architect

Jade Dean, GIS Specialist

Renee Stueber, Editor/Document Specialist

5.4 Applied Earthworks

Joan George, Archaeologist

Chris Shi, Paleontologist – Paleontology Supervisor

Amy Ollendorf, Paleontologist – Paleontology Program Manager

6 Distribution List

The Draft IS/EA or a Notice of Availability will be distributed to local and regional agencies, as well as utility providers affected by the Project. In addition, property owners directly affected by the Project will also be provided with Notice of Availability of the document.

6.1 Federal Agencies

US Environmental Protection Agency, Region 9 Attn: Morgan Capilla 75 Hawthorne Street (TIP-2) San Francisco, CA 94105	US Fish and Wildlife Service 2800 Cottage Way Room W-2605 Sacramento, CA 95825	US Fish and Wildlife Service 777 E. Tahquitz Canyon Way Suite 208 Palm Springs, CA 92262
US Army Corps of Engineers Los Angeles District P.O. Box 532711 Los Angeles, CA 90053-2325		

6.2 State Agencies

California Air Resources Board 1001 "I" Street P.O. Box 2815 Sacramento, CA 95812	Office of Planning and Research (OPR) State Clearinghouse Attn: Kate Gordon, Director Office of Planning and Research 1400 Tenth Street Sacramento, CA 95814	California Energy Commission Attn: Shawn Pittard, Deputy Director Siting, Transmission, and Env. Division 1516 Ninth Street, MS-39 Sacramento, CA 95814
Office of Historic Preservation Julianne Polanco, Pres. Officer 1725 23rd Street, Ste. 100 Sacramento, CA 95816	Native American Heritage Commission Attn: Christina Snider, Ex. Secretary 1550 Harbor Boulevard, Suite 100 West Sacramento, CA 95691	California Public Utilities Commission Attn: Alice Stebbins, Executive Director 505 Van Ness Avenue San Francisco, CA 94102
California Department of Conservation Attn: David Bunn, Director 801 "K" Street, MS 24-01 Sacramento, CA 95814	State Water Resources Control Board Attn: Eileen Sobeck, Executive Director 1001 "I" Street Sacramento, CA 95814	California Resources Agency Attn: Wade Crowfoot, California Secretary 1416 Ninth Street, Ste. 1311 Sacramento, CA 95814

California Department of Fish and Wildlife Attn: Wendy Campbell Inland Deserts Region (Region 6) 3602 Inland Empire Boulevard, Suite C-220 Ontario, CA 91764	California Highway Patrol Attn: Officer Joseph Medina 1916 J Street Needles, CA 92363	California Highway Patrol Inland Division (801) 847 East Brier Drive San Bernardino, CA 92408-2820
California Department of Forestry and Fire Protection Southern Region Operations 2524 Mulberry Street Riverside, California 92501		

6.3 Regional/County/Local Agencies

Southern California Association of Governments 3403 10th Street, Suite 805 Riverside, CA 92501	Southern California Association of Governments 1170 West 3rd Street, Suite 140 San Bernardino, CA 92410	Water Quality Control Board Santa Ana Region 3737 Main Street, #500 Riverside, CA 92501
South Coast Air Quality Management District IGR Coordinator 21865 East Copley Drive Diamond Bar, CA 91765	San Bernardino County Sheriff Department 26985 East Baseline Highland, CA 92346	San Bernardino County Fire Department 157 W. 5th Street, 2nd Floor San Bernardino, CA 92415
Sri Srirajan Chief, Transportation Planning Department of Public Works San Bernardino County 825 East Third Street San Bernardino, CA 92415	San Bernardino County Flood Control District 825 E. Third Street San Bernardino, CA 92415	San Bernardino County Land Development Department 385 N. Arrowhead Avenue San Bernardino, CA 92415
Solid Waste Management Division San Bernardino County 222 West Hospitality Lane, 2nd Floor San Bernardino, CA 92415	Mr. Gary McBride Chief Executive Officer County of San Bernardino 385 North Arrowhead Avenue, 5th Floor San Bernardino, CA 92415	Office of Emergency Services San Bernardino County 385 North Arrowhead Avenue San Bernardino, CA 92415
Riverside County Transportation Commission 4080 Lemon Street Riverside, CA 92501	Riverside County Flood Control and Water Conservation District 1995 Market Street Riverside, CA 92501	Office of the County Fire Marshal 2300 Market Street, Suite 150 Riverside, CA 92501
Erin Gettis Bureau Chief, Planning and Development Riverside County Regional Park and Open-Space District 4600 Crestmore Road Jurupa Valley, CA 92509	Emergency Management Department County of Riverside 4210 Riverwalk Parkway, Suite 300 Riverside, CA 92505	Captain Timothy Salas Cabazon Sheriff's Station Sheriff-Coroner, Riverside County P.O. Box 457 Cabazon, CA 92230

Paul Toomey Director of Community Development City of Yucaipa 34272 Yucaipa Boulevard Yucaipa, CA 92399	Fermin Preciado Director of Public Works/City Engineer City of Yucaipa 34272 Yucaipa Boulevard Yucaipa, CA 92399	Jennifer Ares Water Resource Manager Yucaipa Valley Water District P.O. Box 730 Yucaipa, CA 92399
David Stevenson Director of Facilities, Planning & Operations Yucaipa-Calimesa Joint Unified School District 12797 Third Street Yucaipa, California 92399	Kelly Lucia Planning Manager, Community Development Department City of Calimesa 908 Park Avenue Calimesa, CA 92320	Lori Askew Public Works Director City of Calimesa 908 Park Avenue Calimesa, CA 92320
David Wert Public Information Officer San Bernardino County 385 N. Arrowhead Avenue San Bernardino, CA 92415	Brooke Federico Public Information Officer Riverside County 4080 Lemon Street - 4th Floor Riverside, California 92501	Caltrans District 8 Attn: Public Affairs 464 W. 4th Street San Bernardino, CA 92401

6.4 Elected Officials

Hon. Dianne Feinstein, Senator U.S. Senate 11111 Santa Monica Blvd., Suite 915 Los Angeles, CA 90025	Hon. Kamala Harris, Senator U.S. Senate 11845 West Olympic Boulevard, Suite 1250W Los Angeles, CA 90064	Representative Paul Cook U.S. House of Representatives, District 8 34282 Yucaipa Boulevard Yucaipa, CA 92399
Representative Raul Ruiz U.S. House of Representatives, District 36 445 East Florida Ave, 2nd Floor Hemet, CA 92543	Mike Morrell, Senator California State Senate, District 23 10350 Commerce Center Drive, Suite A-220 Rancho Cucamonga, CA 91730	Chad Mayes, Assembly Member California State Assembly, District 42 41608 Indian Trail, Suite 1 Rancho Mirage, CA 92270
Hon. Dawn Rowe Supervisor, District 3 San Bernardino County Board of Supervisors 385 N. Arrowhead Avenue, 5th Floor San Bernardino, CA 92415	Hon. Jeff Hewitt Supervisor, District 5 Riverside County Board of Supervisors 4080 Lemon Street, 5th Floor Riverside, California 92501	Greg Bogh, Councilmember Council District 2 City of Yucaipa 34272 Yucaipa Boulevard Yucaipa, CA 92399
Bobby Duncan, Mayor City of Yucaipa 34272 Yucaipa Boulevard Yucaipa, CA 92399	David Avila, Mayor Pro Tem City of Yucaipa 34272 Yucaipa Boulevard Yucaipa, CA 92399	William Davis, Mayor City of Calimesa 908 Park Avenue Calimesa, CA 92320

Linda Molina, Mayor Pro Tem City of Calimesa 908 Park Avenue Calimesa, CA 92320	Paul W. Foster, Mayor City of Redlands P.O. Box 3005 Redlands, CA 92373	Denise Davis, Mayor Pro Tem City of Redlands P.O. Box 3005 Redlands, CA 92373

6.5 Utilities

Southern California Gas Company 1981 W Lugonia Ave Redlands, CA 92374	Time-Warner/Spectrum Corporate Headquarters 400 Atlantic Street Stamford, CT 06901	South Mesa Water Company P.O. Box 458 Calimesa, CA 92320-0458
Southern California Edison P.O. Box 800 Rosemead, CA 91770	Frontier Corporate Headquarters 401 Merritt 7 Norwalk, CT 06851	Western Heights Water Company 32352 Avenue D Yucaipa, CA 92399-1801
Verizon Los Angeles Corporate Office 13031 West Jefferson Boulevard, Los Angeles, California 90094	Burrtec 5455 Industrial Parkway San Bernardino, CA 92407	CR&R Waste Management P.O. Box 1208 Perris, CA 92572

6.6 Interested Groups, Organizations, and Individuals

Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians – Kizh Nation P.O. Box 86908 Covina, CA 91723	Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians P.O. Box 693 San Gabriel, CA 91778	Sandonne Goad, Chairperson, Gabrielino/Tongva Nation P.O. Box 86908 Los Angeles, CA 90086
Robert Dorame, Chairperson, Gabrielino Tongva Indians of California Tribal Council P.O. Box 490 Bellflower, CA 90707	Mr. Joseph Ontiveros Soboba Band of Luiseño Indians P.O. Box 487 San Jacinto, CA 92581	Lee Clauss Director of Cultural Resources, San Manuel Band of Mission Indians 26569 Community Center Drive Highland, CA 92346
Mr. Mark Cochran Serrano Nation of Mission Indians P.O. Box 343 Patton, CA 92369	Redlands Community Hospital 350 Terracina Boulevard Redlands, CA 92373	Yucaipa Urgent Care Center 33494 Oak Glen Road Yucaipa, CA. 92399
Ellen Benefiel, Executive Director Yucaipa Chamber of Commerce 12052 California Street Yucaipa, CA 92399	Wynona Duvall, PresidentFA Calimesa Chamber of Commerce 1007 Calimesa Boulevard, Suite D Calimesa, CA 92320	

6.7 Services, Businesses, and Other Property Owners and Occupants within a 500-foot Radius of Project Limits

County Line Service Station c/o J&R Oil Co. Inc. P.O. Box 1958 Corona, CA 92878	County Line Neighborhood Market P.O. Box 1958 Corona, CA 92878	Rowland Heights Mobile Estates Ltd Partners P.O. Box 8397 Rowland Heights, CA 92660
Acricast Inc. c/o Robert B. Stuart P.O. Box 518 Calimesa, CA 92320	Hillcrest Mobile Estates Inc. 2543 W 6th Street Los Angeles, CA 90057	Lorne S. Shutt 625 W Avenue K Calimesa, CA 92320
Troyce L. Gayle 12151 Fremont Street, No. 91 Yucaipa, CA 92399	Learned Perry LTD Partnership c/o Sandra L. Perry P.O. Box 33 St. Helena, CA 94574	Leroy David Burris & Hazel Marie Burris c/o Leroy D. Burris 32419 Avenue E Yucaipa, CA 92399
Kenneth R. Stuart P.O. Box 423 Calimesa, CA 92320	Barbara A. Miller 642 W Avenue L Calimesa, CA 92320	Kenneth R. Stuart P.O. Box 518 Calimesa, CA 92320
Danny R. Stringer 43250 Midnight Court Banning, CA 92220	Neal T. Baker Enterprises c/o Neal Baker 1875 Business Center Drive San Bernardino, CA 92408	Taya Barron 670 W Avenue L Calimesa, CA 92320
Mark W. Reeder 682 W Avenue L Calimesa, CA 92320	Jeffrey A. Noah 694 W Avenue L Calimesa, CA 92320	Betty Jean Holcomb 35355 Panorama Drive Yucaipa, CA 92399
Frank Paul Elardi 9447 Lemon Avenue Alta Loma, CA 91701	Gabriel Hani Family Trust c/o Hani Gabriel P.O. Box 1161 Redlands, CA 92373	Patrick Edward McEnroe 991 7th Sreet Calimesa, CA 92320
Stephen A. Matich & Delgado-Matich 12624 17th Street Yucaipa, CA 92399	Steven K. Whaley 31743 Outer Highway 10 Redlands, CA 92373	Trudy A. Lang 12750 17th Street Redlands, CA 92373

Stephen E. Winegardner 100 Alteza Drive Hot Springs Village, AR 71909	Laura Ann Lines 31846 Florida Street Redlands, CA 92373	David J. Hart 31844 Florida Street Redlands, CA 92373
Richard A. Feenstra 12741 17th Street Redlands, CA 92373	Park West 2828 W Lincoln Avenue Anaheim. CA 92801	Michael Alverson 13033 Connor Court Yucaipa, CA 92399
Beverly J. Patrick 12804 16th Street Redlands, CA 92373	Donald P. Allison 1968 Essex Court Redlands, CA 92373	Higgins Trust 2362 Pepperdale Drive Rowland Heights, CA 91748
Kenneth Hannah 700 E Redlands Boulevard, #U-141 Redlands, CA 92373	James A. Poss 12671 16th Street Yucaipa, CA 92399	Amanda Rose Brock 12609 17th Street Yucaipa, CA 92399
Edward Scott Corrales 36299 Bayhill Beaumont, CA 92223	Salsabil Property, LLC 2587 Viewridge Drive Chino Hills, CA 91709	Edward R. Shinault 12685 16th Street Yucaipa, CA 92399
Mason Family 20212 Rogers Drive Orange, CA 92869	Wayside Properties, LLC 32032 Dunlap Boulevard Yucaipa, CA 92399	Robert Delgado 32150 Kentucky Street Yucaipa, CA 92399
Gopal Inc. 2940 Garretson Avenue Corona, CA 92881	Paul John Delgado 32140 Kentucky Street Yucaipa, CA 92399	Michael D. Myhre 12619 17th Street Yucaipa, CA 92399
Eduardo Salas P.O. Box 7747 Redlands, CA	Richard & Elizabeth Laine 10700 Deerfield Drive Cherry Valley, CA 92223	Raymond L. Deaton 12259 Bryant Street Yucaipa, CA 92399
Salvador Medina 12621 17th Street Yucaipa, CA 92399	Sabbah Trust 11158 Crafton Avenue Redlands, CA 92374	Dunlap & 17th, LLC 32032 Dunlap Boulevard Yucaipa, CA 92399
Alpine Storage, LLC 31838 Dunlap Boulevard Yucaipa, CA 92399	Robert H. & Hoberley C. Schuler 925 Brooke Lane Brookings, OR 97415	Greenhalgh Family Trust 33745 Fairview Drive Yucaipa, CA 92399

Craig Phillip & Barbara Mild Walker 12742 18th Street Redlands, CA 92373	Jerry David Shane 31824 Florida Street Redlands, CA 92373	McFayden Properties, LLC 13217 Oak Crest Drive Yucaipa, CA 92399
County of San Bernardino 825 E Third Street San Bernardino, CA 92415	David Dexheimer 31840 Florida Redlands, CA 92373	Crowley Trust 1419 E Highland Avenue Redlands, CA 92373
Koly Holdings, LLC 13019 Signature Point, #239 San Diego, CA 92130	David Nicoara 38433 Potato Canyon Road Yucaipa, CA 92399	Hal Arthur Hays 2301 Arroyo Drive Riverside, CA 92506
BMK, LLC 998 Bellingham Drive Oceanside, CA 92057	ACAA Limited Partnership 29848 Live Canyon Road Redlands, CA 92373	Harold W. Anderson 13060 2nd Street, Spc 65 Yucaipa, CA 92399
Isabelle M. Ward 32083 Outer Highway 10 S Redlands, CA 92373	Robinson Properties 130 E Montecito Avenue, #246 Sierra Madre, CA 91024	Giacona Living Trust 35080 Buena Mesa Drive Calimesa, CA 92320
David A. Swantek 12863 17th Street Redlands, CA 92373	H & E, LLC 4181 Latham Street Riverside, CA 92501	Palmer General Corp. 32335 Live Oak Canyon Road Redlands, CA 92373
JNKPB Inc. 10660 Heather Rancho Cucamonga, CA 91737	Robinson Ranch Investment Co. 130 E Montecito Avenue, #246 Sierra Madre, CA 91024	Gary Prior 1946 Country Club Drive Redlands, CA 92373
Matt Franich Enterprises 2133 Paseo Del Mar Palos Verdes Estates, CA 90274	Cheesman Trust 12192 17th Street Yucaipa, CA 92399	Alvaro L. Duran 32742 Kentucky Street Yucaipa, CA 92399
TLC Properties Inc. 24541 Redlands Boulevard Loma Linda, CA 92354	Globe Design Build, LLC 17284 New Hope Street, Ste 215 Fountain Valley, CA 92708	Charles W. Lesondak P.O. Box 594 Calimesa, CA
Richard G. Whitlock 4 E Palm Avenue Redlands, CA 92373	Ramon R. Acosta 33078 Bradcliff Court Yucaipa, CA 92399	George & Darlene Morris 12835 17th Street Redlands, CA 92373

Sara Pote 12795 17th Street Redlands, CA 92373	Elena Todorut 1111 E Palm Canyon Drive, #226 Palm Springs, CA 92264	Ben Clymer The Bodyshop Yuc, LLC 12295 Magnolia Avenue Riverside, CA 92503
Outer Hwy 10 Corp. P.O. Box 8280 Redlands, CA	John R. Whittam, Sr. 12918 14th Street Yucaipa, CA 92399	Paul Norman Osborne, Jr. 800 Lake Hill Drive Boulder City, NV 89005
Ephrem Williams 32371 Dunlap Boulevard Yucaipa, CA 92399	Jack D. Patrick 12804 16th Street Redlands, CA 92373	Dennis J. Miller P.O. Box 427 Yucaipa, CA
George R. King 12833 Seventeenth Street Redlands, CA 92373	Thomas R. Gleisberg 31498 Knoll Drive Redlands, CA 92373	H & E, LLC 2301 Arroyo Drive Riverside, CA 92506
Munoz Family Trust 12429 Cape Lane Yucaipa, CA 92399	Wayne C. Beaman 12940 14th Street Yucaipa, CA 92399	ACAA Limited Partnership 422 Wier Road San Bernardino, CA 92408
Jeffrey Scott Berry 8220 E Davenport Drive Scottsdale, AZ 85260	Jeffrey Betcher, Sr. 12825 17th Street Redlands, CA 92373	Lupoid, LLC P.O. Box 457 Calimesa, CA
Thomas A. Greve 31777 Highview Drive Redlands, CA 92373	Watts Management, LLC 7305 E Greenway Road Scottsdale, AZ 85260	Linda L. King and George R. Morris 12835 Seventeenth Street Redlands, CA 92373
Larry N. Guyer 12852 Clover Court Yucaipa, CA 92399	Robinson Ranch-North 130 E Montecito Avenue, #246 Sierra Madre, CA 91024	Hillcrest Mobile Estates Inc. 306 S Commonwealth Avenue Los Angeles, CA 90026
Da Viega Family Trust 13551 Calimesa Boulevard Yucaipa, CA 92399	Harold Willis P.O. Box 11057 San Bernardino, CA	O K Service Sales, Inc. 5962 Priestly Drive Carlsbad, CA 92008
William V. Lesondak 12741 Third Street Yucaipa, CA 92399	Michael Garduno 13185 Vita Lane Yucaipa, CA 92399	Yale Commercial Real Estate LP 2200 S Yale Street Santa Ana, CA

Ronald H. Voyles 13400 Calimesa Boulevard Yucaipa, CA 92399	Don R. and Charnell Tressel 2221 Holly Lane Newport Beach, CA 92663	Skeffington Enterprises Inc. 2200 S Yale Street Santa Ana, CA 92705
John Skeffington 2200 S Yale Street Santa Ana, CA 92704	Robert E. & Zelia Chagolla 35545 Balsa Street Yucaipa, CA 92399	South Mountain Water Co. 101 E Olive Avenue Redlands, CA 92373
Linda Lydia Jeffries 13682 Calimesa Boulevard Yucaipa, CA 92399	Duden Family 13631 Oak Mt Drive Yucaipa, CA 92399	Bountiful Acres, LLC 1255 E Highland Avenue, #103 San Bernardino, CA 92404
Kenneth C. Asmus 243 Broadway Street Lake Elsinore, CA 92530	James Ramos 3275 Amberhill Drive Highland, CA 92346	Set Free Christian Fellowship 13700 Calimesa Boulevard Yucaipa, CA 92399
John T. Macquiddy 13510 Oak Hill Court Yucaipa, CA 92399		

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Appendix A. Resources Evaluated Relative to the Requirements of Section 4(f): No–Use Determinations

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Acronyms and Abbreviations

APE	area of potential effect
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
EB	Eastbound
FHWA	Federal Highway Administration
NEPA	National Environmental Policy Act
Project	I-10 Eastbound Truck Climbing Lane Project
ROW	right of way
TCL	truck climbing lane
USC	United States Code

1 Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

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2 Project Description

The San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans), proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate 10 (I-10) from its current terminus at the existing EB off-ramp to Live Oak Interchange to just east of the County Line Road existing EB off-ramp at the San Bernardino County and Riverside County line. The extension of the existing TCL within the I-10 EB TCL Improvement Project (Project) limits for an additional 3 miles would improve operations by separating slow-moving vehicles from faster moving passenger cars that are climbing the existing grade.

The Project is subject to state and federal environmental review requirements because the use of federal funds from the Federal Highway Administration are anticipated. Project documentation has been prepared in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under both CEQA and NEPA.

The terminus of the Project at the County Line Road interchange was determined based on the existing EB freeway profile grade. The lane configuration at the proposed terminus allows the dedicated TCL-merge to occur after the sustained grade (in less than 2 percent), meets the requirements of logical termini under NEPA, and does not conflict with existing exit ramps. Terminating the dedicated TCL at the existing County Line Road off-ramp is not preferred because it would create a forced weaving situation at the existing exit ramp, as most trucks would continue EB on I-10 and, therefore, be forced to merge at this location.

2.1 Project Purpose

The Project purpose is to improve operational characteristics by separating trucks and other slow-moving vehicles on an additional portion of EB I-10 that includes steep uphill grades from faster moving passenger vehicles. The objectives of the Project are to:

- Improve traffic operations by reducing conflicts between automobiles and slow-moving trucks; and
- Improve safety and reduce frequency of truck-related accidents.

2.2 Project Need

Trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly 4 percent. Without passing lanes, slow-moving trucks create operational conflicts between faster moving automobiles and slow-moving trucks.

A large volume of commercial trucks travel through the Project limits. According to the Project Study Report/Project Development Support (HDR 2017) prepared for the proposed Project, average daily traffic truck volumes in 2016 along I-10 within the Project limits make up 16 percent of the total volume of vehicle traffic. Truck accident frequency can be correlated to increase with differential in speed; therefore, climbing lanes are advantageous when excessive speed differentials exist. Improvements along EB I-10 within the Project limits are needed to reduce weaving and improve efficiency for motorists.

In summary, per the Project Study Report/Project Development Support, the following conditions warrant adding the TCL:

- The running speed of trucks falls 10 miles per hour or more below the running speed of remaining traffic
- The critical length of grade is less than the length of grade being evaluated
- The sustained upgrades are greater than 2 percent if the total rise is greater than 250 feet
- The existing level of service for the upgrade is equal to or better than level of service D
- Adding the TCL results in a one-grade level of service improvement in traffic operations

3 Constructive Use

The Federal Highway Administration must comply with 23 Code of Federal Regulations 774.15 to determine whether or not there is a constructive use of Section 4(f) property. Constructive use of Section 4(f) property is only possible in the absence of a permanent incorporation of land or a temporary occupancy of the type that constitutes a Section 4(f) use (Federal Highway Administration 2012).

A constructive use involves an indirect impact where no actual physical use of the Section 4(f) property, via permanent incorporation of land or a temporary occupancy, occurs. A constructive use occurs when the proximity impacts of a proposed project adjacent to, or nearby, a Section 4(f) property result in substantial impairment to the property's activities, features, or attributes that qualify the property for protection under Section 4(f). Therefore, the value of the resource, in terms of its Section 4(f) purpose and significance, will be meaningfully reduced or lost. However, a project's proximity to a Section 4(f) property is not in itself an impact that results in constructive use.'

The indirect, proximity impacts to properties within 0.5 mile of the Project limits (Section 4(f) project study area) are evaluated relative to the requirements of Section 4(f) and discussed below. Based on the findings below, the Project does not substantially impair any of these properties' activities, features, or attributes that qualify them for protection under Section 4(f); therefore, there is no constructive use of any Section 4(f) property.

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4 Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determinations

The following resources have been identified within the Section 4(f) project study area and were analyzed to determine whether these properties are protected Section 4(f) properties and whether the Project would "use" the properties under Section 4(f) (Table 4-1and Figure 4-1).

Table 4-1. Potential Section 4(f) Properties within the Section 4(f) Project Study Area

Official with Jurisdiction	Name	Location	Approximate Distance from Project Limits	Type	Amenities
City of Yucaipa Department of Parks and Recreation	Avenue I Park	34130 Ave I, Yucaipa, California 92399	0.34 mile	Park	This park encompasses approximately 11 acres and provides a variety of recreational opportunities, including softball fields, tennis courts, picnic opportunities, a children's play area, and a basketball court.
	Dunlap Channel Trail	Trailhead is located at Yucaipa Boulevard	0.15 mile	Recreational Facility (Trail)	This 1-mile multi-use trail begins west of the Yucaipa Boulevard and 14th Street intersection and traverses south, ending northeast of the Dunlap Boulevard and 14th Street intersection.
	Chapman Heights Trail	Trail head is located at Chapman Heights Road	0.17 mile	Recreational Facility (Trail)	This 4.8-mile multi-use trail begins at Chapman Heights Road, traverses east toward Oak Glen Road, and then southwest, ending north of the 14th Street and Oak Glen Road intersection.
	Cienaga Drive Trail	Trailhead is located at Cienaga Drive and John Wayne Way	0.25 mile	Recreational Facility (Trail)	This 1.2-mile multi-use trail loop begins at Cienaga Drive and John Wayne Way, traverses northeast toward 8th street, south toward Liberty Road, and back west toward the trail head.
	Unnamed Trail #1	Trailhead is located east of Dunlap Boulevard and 14th Street	0.07 mile	Recreational Facility (Trail)	This 0.10-mile multi-use trail connects the Dunlap Channel Trail and Chapman Heights Trail to Dunlap Boulevard.
	Unnamed Trail #2	Trailhead is located west of 14th Street/Calimesa	Within the Project limits	Recreational Facility (Trail)	This 0.36-mile multi-use trail connects Unnamed Trail #3 from the intersection of Oak Glen Road Calimesa Boulevard to the Outer 10

Table 4-1. Potential Section 4(f) Properties within the Section 4(f) Project Study Area

Official with Jurisdiction	Name	Location	Approximate Distance from Project Limits	Type	Amenities
		Boulevard and Oak Glen Road			Highway Street and Live Oak Canyon Road intersection, and crosses over I-10.
	Unnamed Trail #3	Trailhead is located north of 14th Street and Live Oak Canyon Road/Oak Glenn Road	Adjacent to the Project limits	Recreational Facility (Trail)	This 1.65-mile multi-use trail connects the Dunlap Channel Trail to Wildwood Wash.
	Wildwood Creek Trail	Trailhead is located at the California Street, Yucaipa Creek overcrossing	0.41 mile	Recreational Facility (Trail)	This 1.7-mile multi-use trail does not connect to other trails and parallels the southern bank of the Wildwood Wash from 6th Place to Bryant Street
County of San Bernardino	Yucaipa Adobe Museum	32183 Kentucky St, Yucaipa, CA 92399	0.05 mile Outside of Area of Potential Effect	Recreational Facility (Historic) and Historic Resource	The Yucaipa Adobe Museum is a California Historic Landmark (No. 528) that is open to the public by fee. The museum is under the jurisdiction of the County of San Bernardino. It contains nineteenth century furnishings, outdoor exhibits of horse-drawn farm implements, and monthly guided tours administered by the Yucaipa Valley Historical Society.
City of Calimesa Public Works Department	Creekside Park	Southwest of the 7th Place and West County Line Road intersection	0.11 mile	Park	This park encompasses 1.17 acre on 7th Place between West Avenue L and West County Line Road, west of I-10. It includes a comfort station, basketball hoops, a children's play area, and picnic areas.
Yucaipa-Calimesa Joint Unified School District	Mesa View Middle School	800 Mustang Way, Calimesa, California 92320	0.31 mile	Recreational Facility (School)	Shared public access to school facilities during weekends and after-school programs are provided through joint-use agreements with the Yucaipa-Calimesa Joint Unified School District.

Table 4-1. Potential Section 4(f) Properties within the Section 4(f) Project Study Area

Official with Jurisdiction	Name	Location	Approximate Distance from Project Limits	Type	Amenities
Redlands Conservancy	Jacinto Loop Trail	South of Avenue North and Highview Drive	0.46 mile	Recreational Facility (Trail)	This 2.8-mile off-road trail is just south of Avenue North and Highview Drive and connects to two other trails outside of the Section 4(f) project study area. This trail is maintained by the Redlands Conservancy.

Source: City of Yucaipa 2016; City of Calimesa 2014; Redlands Conservancy n.d.; San Bernardino County 2018; Yucaipa-Calimesa Join Unified School District n.d.

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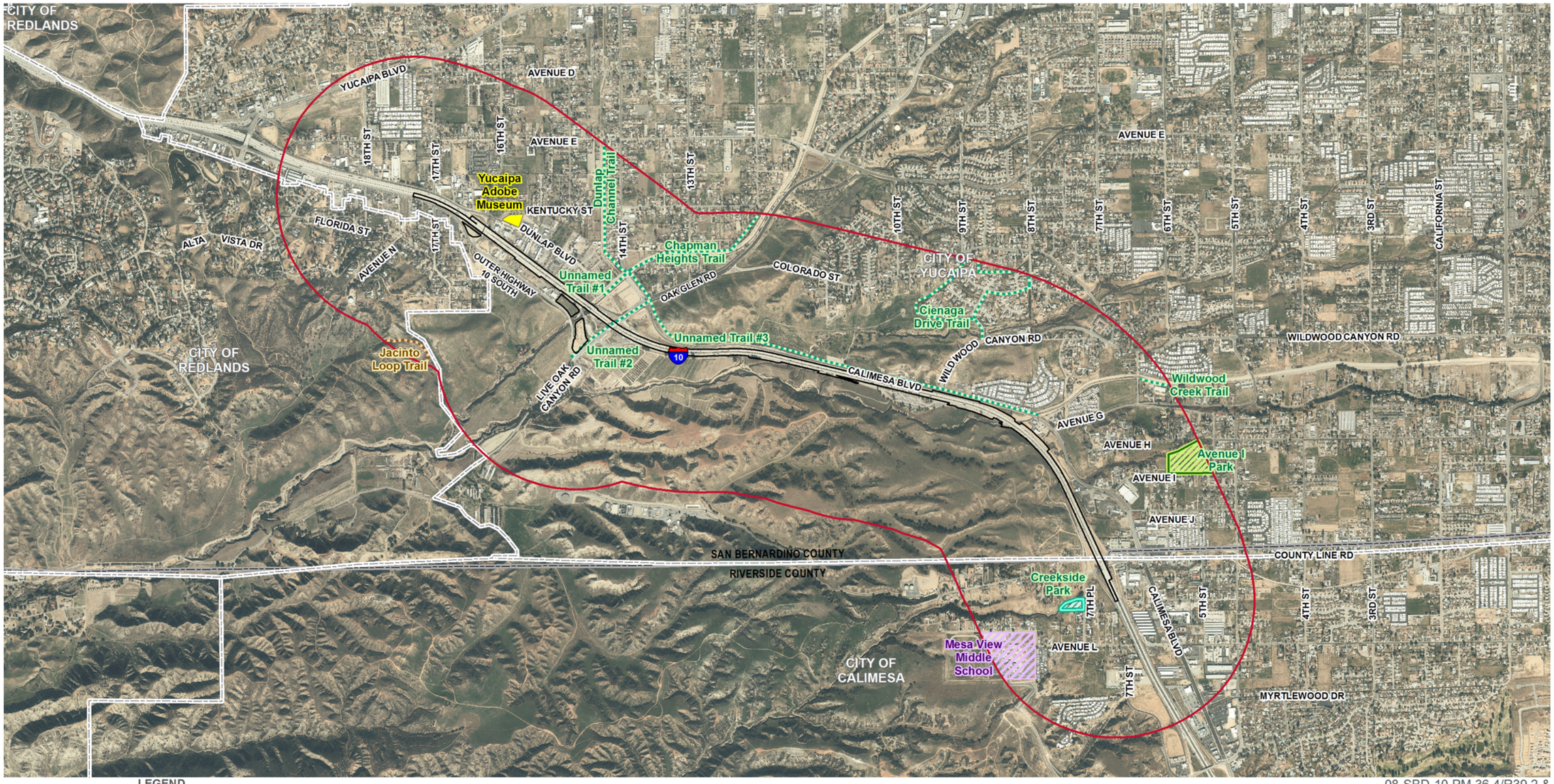


Figure 4-1. Potential Section 4(f) Properties within the Section 4(f) Project Study Area

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5 No-Use Determination

As described below, the properties identified in Table 4-1would not be directly or indirectly impacted in a manner that would adversely impact the features, activities, or attributes that qualify the properties for protection under Section 4(f). As further described below, although the properties are Section 4(f) properties, no "use" would occur. Therefore, the provisions of Section 4(f) do not apply.

5.1 Avenue I Park

Avenue I Park is approximately 0.34 mile from the Project limits, east of the Avenue I and Calimesa Boulevard intersection. The Project would not require permanent or temporary roadway closures; therefore, access to the park would not be affected by the Project. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect Avenue I Park.

Construction activity would mostly be conducted within existing Caltrans right-of-way (ROW). Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic. However, due to the distance of the park from the Project limits, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary and would not constitute a constructive use. Therefore, the provisions of Section 4(f) are not triggered, and no avoidance, minimization, and/or mitigation measures are recommended.

5.2 Dunlap Channel Trail

Dunlap Channel Trail is approximately 0.15 mile from the Project limits, north of the Dunlap Boulevard and 14th Street intersection. The Project would not result in temporary or permanent closures of any portion of the Dunlap Channel Trail. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect the Dunlap Channel Trail.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the trail. However, noise and air quality impacts would be relatively minor as trails are considered to be transient activity areas, rather than stationary or passive activity areas, where users would be more susceptible to impacts related to noise and emissions. Any construction-related traffic, noise, or air quality impacts on recreational trails are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

To minimize potential short-term adverse impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA), Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.3 Chapman Heights Trail

Chapman Heights Trail is approximately 0.17 mile from the Project limits, north of the Oak Glen Road and Calimesa Road intersection. The Project would not result in temporary or permanent closures of any portion of the Chapman Heights Trail. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect the Chapman Heights Trail.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the trail. However, noise and air quality impacts would be relatively minor as trails are considered to be transient activity areas, rather than stationary or passive activity areas, where users would be more susceptible to impacts related to noise and emissions. Any construction-related traffic, noise, or air quality impacts on recreational trails are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

To minimize potential short-term adverse impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA), Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.4 Cienaga Drive Trail

Cienaga Drive Trail is approximately 0.25 mile from the Project limits, north of the John Wayne Way and Wildwood Canyon Road intersection. The Project would not result in temporary or permanent closures of any portion of the Cienaga Drive Trail. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect the Cienaga Drive Trail.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the trail. However, noise and air quality impacts would be relatively minor as trails are considered to be transient activity areas, rather than stationary or passive activity areas, where users would be more susceptible to impacts related to noise and emissions. Any construction-related traffic, noise, or air quality impacts on recreational trails are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

To minimize potential short-term adverse impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA), Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.5 Unnamed Trail #1

Unnamed Trail #1 is approximately 0.07 mile from the Project limits, east of the Dunlap Boulevard and 14th Street intersection. The Project would not result in temporary or permanent closures of any portion of the Unnamed Trail #1. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect Unnamed Trail #1.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the trail. However, noise and air quality impacts would be relatively minor as trails are considered to be transient activity areas, rather than stationary or passive activity areas, where users would be more susceptible to impacts related to noise and emissions. Any construction-related traffic, noise, or air quality impacts on recreational facilities are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

To minimize potential short-term adverse impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA), Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.6 Unnamed Trail #2

Unnamed Trail #2 crosses over I-10 and overlaps with the Project limits, along Live Oak Canyon Road. The Project would not result in temporary or permanent closures of any portion of the Unnamed Trail #2. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect Unnamed Trail #2.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the trail. However, noise and air quality impacts would be relatively minor as trails are considered to be transient activity areas, rather than stationary or passive activity areas, where users would be more susceptible to impacts related to noise and emissions. Any construction-related traffic, noise or air quality impacts on recreational facilities are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

To minimize potential short-term adverse impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA), Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.7 Unnamed Trail #3

Unnamed Trail #3 is directly adjacent the Project limits, and parallels Westbound I-10 starting from where 14th Street turns west towards Dunlap Boulevard. The Project would not result in temporary or permanent closures of any portion of the Unnamed Trail #3. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect Unnamed Trail #3.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the trail. However, noise and air quality impacts would be relatively minor as trails are considered to be transient activity areas, rather than stationary or passive activity areas, where users would be more susceptible to impacts related to noise and emissions. Any construction-related traffic, noise or air quality impacts on recreational facilities are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

To minimize potential short-term adverse impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA), Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.8 Wildwood Creek Trail

Wildwood Creek Trail is approximately 0.41 mile from the Project limits, west of the Wildwood Wash, I-10 overcrossing. The Project would not result in temporary or permanent closures of any portion of the Wildwood Creek Trail. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect the Wildwood Creek Trail.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Due to the trail's distance from the Project limits and the transient nature of the trail, noise and air quality impacts as a result of construction activities are anticipated to be minor and would not constitute a constructive use. Therefore, the provisions of Section 4(f) are not triggered, and no avoidance, minimization, and/or mitigation measures are recommended.

5.9 Yucaipa Adobe Museum

As discussed in Section 2.10 Cultural, the Yucaipa Adobe Museum is a designated California Historic Landmark (No. 528). Although the museum is outside of the Area of Potential Effect and is not considered a National Historic Landmark, it is considered as a recreational facility by the City of Yucaipa and is located within the Section 4(f) project study area. The Yucaipa Adobe Museum is approximately 0.05 mile from the Project limits, east of the 16th Street, I-10 overcrossing. The Project would not require permanent or temporary roadway closures; therefore, access to the museum would not be affected by the Project. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect Yucaipa Adobe Museum.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the recreational facility. However, any construction-related traffic, noise or air quality impacts on recreational facilities are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

In order to minimize potential short-term impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA, Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.10 Creekside Park

Creekside Park is located approximately 0.11 mile from the Project limits, southwest of the West County Line Road and 7th Place intersection. The Project would not require permanent or temporary roadway closures; therefore, access to the park would not be affected by the Project. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect Creekside Park.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic, which may indirectly affect the park. However, any construction-related traffic, noise or air quality impacts on recreational facilities are anticipated to be minor and temporary; therefore, the provisions of Section 4(f) are not triggered.

In order to minimize potential short-term impacts, Measures AQ-1 through AQ-3 (Section 2.16, Air Quality of the Project IS/EA), Measures N-1 and N-3 (Section 2.17, Noise of the Project IS/EA), Measure TR-1 (Section 2.8, Traffic and Transportation/Pedestrian and Bicycle Facilities of the Project IS/EA), and Measures GHG-1 and GHG-2 (Chapter 3, CEQA Checklist of the Project IS/EA) would be implemented during construction of Alternative 2 (Build Alternative) to reduce any temporary construction effects on air quality, noise, and circulation; therefore, there would be no constructive use of this property under Section 4(f). These measures are also listed below in Section 6.

5.11 Mesa View Middle School

Joint-use agreements with the Yucaipa-Calimesa Joint Unified School District allow shared public access to school facilities during weekends and after-school programs at elementary and middle schools (City of Yucaipa 2016). Public use of school facilities is available through the submission of a use of facilities application and fee. Therefore, it is determined that Mesa View Middle School qualifies as a Section 4(f) property.

Mesa View Middle School is located approximately 0.31 mile from the Project limits, southwest of the most southern point of the Project limits. The Project would not require permanent or temporary roadway closures; therefore, access to the school would not be affected by the Project. Additionally,

the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect Mesa View Middle School.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from equipment and traffic. However, due to the distance of the school from the Project limits, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary and would not constitute a constructive use. Therefore, the provisions of Section 4(f) are not triggered, and no avoidance, minimization, and/or mitigation measures are recommended.

5.12 Jacinto Loop Trail

Jacinto Loop Trail is approximately 0.46 mile from the Project limits, southwest of the 16th Street, I-10 overcrossing. The Project would not result in temporary or permanent closures of any portion of the Jacinto Loop Trail. Additionally, the Project would not result in increases to traffic, noise, or air quality emissions that would adversely affect the Jacinto Loop Trail.

Construction activity would mostly be conducted within existing Caltrans ROW. Thus, no direct use of the property that could result in a permanent incorporation or temporary occupancy would occur. Due to the trail's distance from the Project limits and the transient nature of activities on the trail, noise and air quality impacts as a result of construction activities are anticipated to be minor and would not constitute a constructive use. Therefore, the provisions of Section 4(f) are not triggered, and no avoidance, minimization, and/or mitigation measures are recommended.

6 Avoidance, Minimization and/or Mitigation Measures

The following measures will be implemented to avoid and/or minimize Project impacts on air quality during construction:

AQ-1 During construction, SBCTA will ensure that equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.

AQ-2 Prior to construction, SBCTA will ensure that environmentally sensitive areas will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.

AQ-3 During construction, SBCTA will ensure, to the extent feasible, that construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

The following measures will be implemented to minimize Project noise and vibration impacts during construction:

N-1 During construction, SBCTA will implement the following procedures to minimize temporary impacts from construction vibration:

- Hours of vibration-intensive activities, such as vibratory rollers, will be restricted to minimize adverse impacts on the residents.
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible will be entitled to a preconstruction building inspection to document the preconstruction condition of that structure.
- Vibration monitoring will be conducted during vibration-intensive activities.

N-2 During site excavation and grading, SBCTA will ensure all construction equipment, fixed or mobile, is equipped with sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.

N-3 During Project construction, SBCTA will implement appropriate noise reduction measures to minimize temporary noise impacts, including turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

The following measure will be implemented to develop BMPs for Project traffic impacts during construction:

TR-1 During final design, a traffic management plan will be prepared for the Project. Key elements to be considered in the traffic management plan include the following:

- Public information
- Motorist information strategies
- Incident management
- Construction strategies
- Demand management
- Alternative route strategies

The following measures will be implemented to avoid and/or minimize Project impacts on greenhouse gas during construction:

GHG-1 During construction, SBCTA will ensure that idling will be limited to 5 minutes for delivery and dump trucks and other diesel-powered equipment.

GHG-2 During construction, SBCTA will ensure that truck trips are scheduled outside of peak morning and evening commute hours.

7 References

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Appendix B. Title VI Policy Statement

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

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Making Conservation a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

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For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

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Appendix C. Glossary of Technical Terms

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Term	Note
A	
100-year floodplain	The area within a floodplain that statistically has a 1% chance of flooding in any given year.
500-year floodplain	The area within a floodplain that statistically has a 0.2% chance of flooding in any given year.
A-Weighted Decibel Sound Level (dBA)	The sound level measured on an instrument containing an A filter, which electronically simulates the frequency response of the human ear under an average intensity of sound.
Action	A National Environmental Policy Act (NEPA) term; construction or reconstruction, including associated activities of a transportation facility. An action may be categorized as a "categorical exclusion" or a "major federal action."
Action (1)	Any highway construction, reconstruction, rehabilitation, repair, or improvement undertaken with Federal-aid highway funds or FHWA approval.
Action (2)	A highway or transit project proposed for FHWA or FTA funding. It also includes activities such as joint and multiple use permits, changes in access control, etc., which may or may not involve a commitment of federal funds (23 CFR 771.107(b)).
Active Fault	A fault that has moved within late Quaternary time (the last 750,000 years). Note that this definition is broader than that used by the California Department of Conservation, California Geological Survey (CGS), which defines an active fault as one that has moved within Holocene time (the last 11,000 years).
Adaptive Management	A long-term repeated process of gradually modifying management techniques based on the results of modeling and research.
Adverse	A term used to describe unfavorable, harmful, or detrimental changes in environmental conditions.

Term	Note
Aerially deposited lead (ADL)	Lead deposited within unpaved areas or formerly unpaved areas, primarily due to vehicle emissions. Aerially deposited lead is typically found within the top 0.6 meters (2 feet) of material in unpaved areas within the highway right-of-way.
Air Contaminant	Any particulate matter, gas, or combination thereof, other than water vapor.
Air Pollutant	Any substance in air that could, in a high enough concentration, harm humans, other animals, vegetation, or material. Pollutants may include almost any natural or artificial composition of airborne matter capable of being airborne. They may be in the form of solid particles, liquid droplets, gases, or in combination thereof. Generally, they fall into two main groups: (1) those emitted directly from identifiable sources, and (2) those produced in the air by interaction between two or more primary pollutants, or by reaction with normal atmospheric constituents, with or without photoactivation. Exclusive of pollen, fog, and dust, which are of natural origin, approximately 100 contaminants have been identified. Air pollutants are often grouped in categories for ease in classification; some of the categories are: solids, sulfur compounds, volatile organic chemicals, particulate matter, nitrogen compounds, oxygen compounds, halogen compounds, radioactive compound, and odors.
Air Quality Management District (AQMD)	A regional agency that adopts and enforces rules to achieve and maintain state and federal air quality standards.
Alluvial Fan	A fan-shaped area of soil deposited where a mountain stream first enters a valley or plain.
Alluvial Soils	Soil developing from recent alluvium (see below); typical of floodplains.
Alluvium	Material developed by running water.

Term	Note
Alquist-Priolo Zones	Active fault zones, identified pursuant to the Alquist-Priolo Earthquake Fault Zone Act. This Act is intended to prevent the construction of new buildings for human occupancy over active faults. It requires identification of active fault zones and regulation of development within these zones. General Plan Safety Elements typically incorporate the Act's requirements. The Act does not apply to publicly owned facilities, critical facilities and lifelines, or industrial facilities.
Alternatives	Solutions to the project's need. A "reasonable range" of alternatives must be considered as part of the Interstate 10 Truck Climbing Lane Improvement Project Draft Initial Study/Environmental Assessment (IS/EA) process. One of those alternatives must be a "no project" or No Build Alternative.
Ambient	Refers to surrounding, external, or unconfined conditions
Ambient Noise	Exterior sound (the surrounding sound from all sources near and far).
Americans With Disabilities Act (ADA)	Federal civil rights legislation for disabled persons passed in 1990; calls on public transit systems to make their services more fully accessible as well as to underwrite a parallel network of paratransit service.
Anadromous	Refers to fish that typically inhabit seas or lakes but ascend streams to spawn; for example, salmon.
Annual Average Daily Traffic (AADT)	The average 24-hour volume, being the total number during a stated period divided by the number of days in that period. Unless otherwise stated, the period is a year. The term is commonly abbreviated as ADT or AADT.
ARB - California Air Resources Board	Part of the California Environmental Protection Agency, the California Air Resources Board is charged with promoting and protecting public health, welfare, and ecological resources through the effective and efficient reduction of air pollutants while recognizing and considering the effects on the economy of the state.

Term	Note
Archaeological Survey Report (ASR)	Caltrans uses the Archaeological Survey Report (ASR) to present results of identification efforts conducted for a project. The ASR is an attachment to the Historic Property Survey Report (HPSR).
Area of Potential Effect (APE)	A term used in Section 106 of the National Historic Preservation Act to describe the area in which historic resources may be affected by a federal undertaking.
Arid	Dry.
Arterial	A highway or local road that primarily serves through traffic.
Arterial Street	A major thoroughfare, used primarily for through traffic rather than for access to adjacent land, that is characterized by high vehicular capacity and continuity of movement.
Asbestos	An incombustible mineral fiber used for fireproofing, electrical insulation, building materials, brake linings, and chemical filters. The fibers can pollute air or water and are a human health concern.
As-Builts	The final plans of a project after the project is constructed. These plans show the original design, as well as changes that occurred during construction.
Attainment area	A geographic area in which levels of a criteria air pollutant meet the health-based primary standard (national ambient air quality standard, or NAAQS) for the pollutant. An area may have an acceptable level for one criteria air pollutant, but may have unacceptable levels for others. Thus an area could be both attainment and nonattainment at the same time. Attainment areas are defined using federal pollutant limits set by the U.S. EPA.
Attenuation	The reduction of noise.

Term	Note
Auxiliary Lane	The portion of the roadway adjoining the traveled way for speed change, turning, weaving, truck climbing, maneuvering of entering and leaving traffic, and other purposes supplementary to through-traffic movement. Auxiliary lanes are used to balance the traffic load and maintain a more uniform level of service on the highway. They facilitate the positioning of drivers at exits and the merging of drivers at entrances.
Average Daily Traffic (ADT)	The average traffic volume of 24-hour counts collected over a number of days greater than one but less than a year
B	
Backwater	The rise in water surface elevation due to encroachment.
Base Flood	The flood having a one percent (1%) chance of being equaled or exceeded in any given year (100-year flood).
Base Flood Elevation (BFE)	The water surface elevation of the base flood.
Basin Plan	A specific plan for control of water quality within one of the nine hydrologic basins of the State under the regulation of a Water Quality Control Board.
Beneficial Use	A use of a natural water resource that enhances the social, economic, and environmental well-being of the user. Twenty-one beneficial uses are defined for the waters of California, ranging from municipal and domestic supply to fisheries and wildlife habitat.
Best Management Practices (BMP)	Any program, technology, process, operating method, measure, or device that controls, prevents, removes, or reduces pollution.
Biofiltration swales/strips	Biofiltration strips are vegetated land areas over which stormwater flows as sheet flow. Biofiltration swales are vegetated channels, typically configured as trapezoidal or v-shaped channels that receive and convey stormwater flows while meeting water quality criteria and other flow criteria.

Term	Note
C	
California Department of Fish and Game (CDFG)	A public agency within the Resources Agency of the State of California. This agency is responsible for managing California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. CDFG also is responsible for the administration of the provisions of the State Endangered Species Act and for operating the California Natural Diversity Database.
California Department of Transportation (Caltrans)	Owner and operator of I- 10, and Lead Agency under CEQA and NEPA for the I-10 Eastbound Truck Climbing Lane Improvement Project Initial Study/Environmental Assessment (IS/EA).
California Environmental Quality Act (CEQA)	State legislation enacted in 1970 and subsequently amended. It requires public agencies to regulate activities which may affect the quality of the environment so that major consideration is given to preventing damage to the environment.
California Transportation Commission (CTC)	A State Commission, established by State Assembly Bill 402 (AB 402) with nine appointed member and two ex-officio members, responsible for the programming and allocating of funds for the construction of highway, passenger rail, and transit improvements throughout California. The CTC also provides guidance and recommendations on transportation policies.
California Transportation Plan (CTP)	The CTP is a long-range transportation policy plan that is submitted to the Governor. The CTP is developed in collaboration with partners, presents a vision for California's future transportation system, and defines goals, policies, and strategies to reach the vision. It is developed in consultation with the State's regional transportation planning agencies, is influenced by the regional planning process, and provides guidance for developing future RTPs. RTPs should be consistent with and implement the vision and goals of the CTP. As defined by State statute, the CTP is not project specific.
CEQA Guidelines	Regulations adopted by the State of California to implement California Environmental Quality Act (CEQA).

Term	Note
California Native Plant Society (CNPS)	The California Native Plant Society is a statewide nonprofit organization dedicated to increasing understanding of California's native plants and to preserve them in their natural habitats through scientific activities, education, and conservation. The Society works primarily through its local chapters.
California Natural Diversity Database (CNDDB)	The California Natural Diversity Database is part of the Wildlife and Habitat Data Analysis Branch, Habitat Conservation Division, California Department of Fish and Game. It is a statewide inventory of the locations and conditions of the state's rarest species and natural communities. Data in the CNDDB are stored in geographic information system (GIS) format and can be retrieved as reports, maps, or overlays.
California Public Utility Commission (CPUC)	Regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. The CPUC is responsible for ensuring that California utility customers have safe, reliable utility service at reasonable rates, protecting utility customers from fraud; and promoting the health of California's economy.
California Register of Historical Resources (California Register)	The California Register is the authoritative guide to the state's significant historical and archeological resources.
California Transportation Commission (CTC)	A State commission established by Assembly Bill 402 {AB 402) with nine appointed members and two ex-officio members, responsible for the programming and allocating of funds for the construction of highway, passenger rail, and transit improvements throughout California. The CTC also provides guidance and recommendations on transportation policies.
California Transportation Plan (CTP)	The state's long-range transportation plan, with a minimum 20-year forecast period, for all areas of the state that provides for the development and implementation of California's intermodal transportation system. (Title 23 United States Code, Section 135). Per California statute, the CTP may not be project-specific.
Capacity	The maximum amount of traffic that can be accommodated by a uniform segment of freeway under prevailing conditions.

Term	Note
Categorical Exemption (CE)	"Categorical Exemption," under CEQA, means an exemption for a class of projects that have been determined by the Secretary of the Resources Agency not to have a significant effect on the quality of the environment. Article 19 of the CEQA Guidelines describes and gives examples for each class of categorical exemption. There are several exceptions which preclude a project from being considered a Categorical Exemption under CEQA: projects located on a site included on a list of designated hazardous waste sites (the Cortese List); projects that may result in damage to scenic resources on officially designated state scenic highways; or projects that may cause substantial adverse change to a historic resource.
Channelization	The use of traffic markings or islands to direct traffic into certain paths, for instance, a "channelized" intersection directs portions of traffic into a left-turn lane through the use of roadway islands or striping that separates the turn lane from traffic going straight.
Clean Air Act (CAA)	Federal legislation that sets national air quality standards; requires each state with areas that have not met federal air quality standards to prepare a State Implementation Plan (SIP). The sweeping 1990 amendments to the CAA, sometimes referred to as CAAA, established new air quality requirements for the development of metropolitan transportation plans and programs.
Clean Air Act Amendments of 1990 (CAAA)	The comprehensive federal legislation that establishes criteria for attaining and maintaining the federal standards for allowable concentrations and exposure limits for various air pollutants; the act also provides emission standards for specific vehicles and fuels.
Clean Water Act	Legislation that provides statutory authority for the National Pollutant Discharge Elimination System (NPDES) program; Public law 92-500; 33 U.S.C. 1251 et seq. Also known as the Federal Water Pollution Control Act.
Clear Recovery Zone	Unobstructed, relatively flat or gently sloping area beyond the edge of the traffic lane, which affords the drivers of errant vehicles the opportunity to regain control.

Term	Note
Community Noise Equivalent Level (CNEL)	The CNEL represents the average continuous noise level over a 24-hour period, with special weighting factors applied to noise events occurring in the nighttime (10:00 p.m. to 7:00a.m.), the evening (7:00p.m. to 10:00 p.m.), and the daytime (7:00a.m. to 7:00p.m.).
Conformity	The ongoing process that ensures the planning for highway and transit systems, as a whole and over the long term, is consistent with the state air quality plans for attaining and maintaining health- based air quality standards; conformity is determined by metropolitan planning organizations (MPOs) and the U.S. Department of Transportation (U.S. DOT) and is based on whether transportation plans and programs meet the provisions of a State Implementation Plan (SIP).
Congestion	Defined by Caltrans as highway operating speeds reduced to less than 35 miles per hour for longer than 15 minutes.
Conventional Highway	A highway without control of access that may or may not be divided.
Cooperating Agency	"Cooperating Agency," under NEPA, means any agency other than the lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal for any action significantly affecting the human environment.
Corridor	A strip of land between two termini within which traffic, topography, environment, and other characteristics are evaluated for transportation purposes.
Criteria Pollutants	Criteria pollutants include ozone, carbon monoxide, nitrogen dioxide, inhalable particulates (particulate matter less than 10 microns), and lead, as defined by the California Air Resources Board.
cubic foot per second	A rate of flow equal to approximately 7.5 gallons.
Cumulative effects	Project effects that are related to other actions with individually insignificant but cumulatively significant impacts.

Term	Note
Cumulative Impact (CEQA)	The CEQA definition of cumulative impact comes from the Office of Planning and Research (OPR). Section 15355 of OPR's CEQA Guidelines provides the following context: Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. a) The individual effects may be changes resulting from a single project or a number of separate projects. b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.
Cumulative Impact (NEPA)	The NEPA definition of a cumulative impact comes from the Council on Environmental Quality (CEQ), which defines a cumulative impact as: …the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR §1508.7.)
D	
dba	A-weighted decibels are adjusted to approximate the way the average person hears sound.
Decibel	With respect to sound, decibels measure a scale from the threshold of human hearing, 0 decibels, upwards towards the threshold of pain, about 120-140 decibels. Because decibels are such a small measure, they are computed logarithmically and cannot be added arithmetically. An increase of 10 decibels is perceived by the human ear as a doubling of noise.

Term	Note
Deciduous	(of leaves), shed during a certain season (winter in temperate regions, dry seasons in the tropics); (of trees), having deciduous parts.
Demand	The transportation need at a point in time, e.g., traffic volume on a segment of road at a point in time, projected traffic volume on a segment of road in a future year, current peak period ridership on a bus route, children crossing at a signed intersection on school days.
Demography, Demographic	The study of populations with reference to birth and death rates, size and density, distribution, migration, and other vital statistics.
Design Capacity	The maximum number of vehicles that can pass over a lane or a roadway during one hour without operating conditions falling below a pre-selected design level.
Design Concept	The type of facility identified by the project, e.g., freeway, expressway, arterial highway, grade-separated highway, reserved right-of-way rail transit, mixed-traffic rail transit, exclusive busway, etc.
Design Flood	The peak discharge, volume if appropriate, stage or wave crest elevation of the flood associated with the flood frequency selected for the design of a project. (In other words, the project will not be inundated at the design flood frequency.)
Design Life	The length of time that a transportation facility or improvement is intended to remain serviceable, frequently expressed in years.
Design Scope	The design aspects which will affect the proposed facility's impact on regional emissions, usually as they relate to vehicle or person carrying capacity and control, e.g., number of lanes or tracks to be constructed or added, length of project, signalization, access control including approximate number and location of interchanges, preferential treatment for high-occupancy vehicles, etc.

Term	Note
Design speed	A speed determined for design and correlation of the physical features of a highway that influence vehicle operation. It is the maximum safe speed that can be maintained over a specified section of highway when conditions are so favorable that the design features of the highway govern.
Design Volume	A volume determined for use in design, representing traffic expected to use the highway. Unless otherwise stated, it is an hourly volume.
Designated Floodway	A floodway designated by a state or local agency. California State Reclamation Board (Board) definition: A designated floodway means either: (1) the channel of the stream and that portion of the adjoining floodplain reasonably required to provide passage of a base flood or (2) the floodway between existing levees as adopted by the Board or the Legislature.
Deterministic Seismic Hazard Analysis	Seismic parameters are estimated based on the size of the maximum credible (magnitude) earthquake expected. The value obtained is essentially time-independent. This method is used by Caltrans to assess the seismic hazard at most structures. See also probabilistic seismic hazard analysis, below.
Diameter at Breast Height (DBH)	Diameter of tree measured 4 feet, 6 inches (1.4 meters) from ground level.
Differential Settlement	The uneven lowering of different parts of an engineered structure, often resulting in damage to the structure.
Direct Effects	Effects that are caused by and action and occur at the same time and place as the action.
E	
Ecosystem	The biotic community and its abiotic environment functioning on a system.
Encroachment (FEMA definition)	Construction, placement of fill, or similar alteration of topography in the floodplain that reduces the area available to convey floodwaters. FHWA definition: An action within the limits of the base floodplain.

Term	Note
Encroachment (FHWA)	An action within the limits of the base floodplain.
Endangered	Plant or animal species that are in danger of extinction throughout all or a significant portion of its range.
Endemic, Endemism	Restricted to a given region (e.g., endemic to California).
Environmental Assessment (EA)	Defined by Caltrans as an assessment of the environmental consequences (positive and negative) of a plan, policy, program, or actual projects prior to the decision to move forward with the proposed action.
Environmental Document	"Environmental Document" means draft or final Environmental Impact Statement (EIS) or Environmental Impact Report (EIR), Finding of No Significant Impact (FONSI), Environmental Assessment (EA) or Negative Declaration (ND)/Mitigated Negative Declaration (MND). A categorical exemption or exclusion is not considered an environmental document; it is rather the determination that the project is exempt/excluded from the requirement to prepare an environmental document.
Environmental Justice (EJ)	Federal Executive Order 12898 requiring analysis of the impact of a facility or project on disadvantaged populations (i.e., low-income, minority)
Environmental Protection Agency [United States] (U.S. EPA)	An agency of the executive branch of the federal government charged with establishing and enforcing environmental regulations.
Ephemeral	Lasting for only a short time; transitory; short-lived.
Erosion	The wearing away of the land surface by running water, wind, ice, or other geological agents.
Estuary	Partially enclosed embayment where fresh water and sea water meet and mix.
Ethnographic	Relating to the study of human cultures.

Term	Note
Expansive Soils	Soil deposits that have the capacity or a tendency to expand during weather or seismic events.
Expressway	An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.
Extant	Still in existence.
F	
Falsework	A temporary frame to support a structure during construction.
Fault Creep	Slow ground displacement occurring without accompanying earthquakes.
Federal Highway Administration (FHWA)	The Federal agency within the U.S. Department of Transportation responsible for administering the Federal-aid Highway Program and the Motor Carrier Safety Program.
Federal Register (FR)	The *Federal Register* is the official daily publication for agency rules, proposed rules, and notices of federal agencies and organizations, as well as for Executive Orders and other presidential documents.
Federal Transit Administration (FTA)	An agency within the U.S. Department of Transportation responsible for administering federal funds for public transportation planning, programming, and projects.
Federal State Transportation Improvement Program (FSTIP)	A multiyear statewide, financially constrained, intermodal program of projects that is consistent with the statewide transportation plan (CTP) and regional transportation plans (RTPs). The FSTIP is developed by the California Department of Transportation and incorporates all of the MPOs *and* RTPAs FTIPs by reference. Caltrans then submits the FSTIP to FHWA.
Federal Transportation Improvement Program (FTIP)	A constrained 4-year prioritized list of all transportation projects that are proposed for federal and local funding. The FTIP is developed and adopted by the MPO/RTPA and is updated every 2 years. It is consistent with the RTP and it is required as a prerequisite for federal funding.

Term	Note
Finding Of No Significant Impact (FONSI)	A document by a federal agency briefly presenting the reasons why an action, not otherwise categorically excluded, will not have a significant effect on the human environment and therefore does not require the preparation of an EIS.
Flood Boundary And Floodway Map (FBFM)	The floodplain management map issued by FEMA that depicts, on the basis of detailed analyses, the boundaries of the 100- and 500-year floodplain and the regulatory floodway.
Flood Frequency	The statistical number of years that takes place before the recurrence of a flood of the same magnitude. (10-year flood, 50-year flood, 100-year flood, etc.)
Flood Insurance Rate Map (FIRM)	The insurance and floodplain management map issued by FEMA that identifies, on the basis of detailed or approximate analyses, the areas of 100-year flood hazard in a community.
Flood Insurance Study (FIS)	It is a report that describes and delineates the Special Flood Hazard Areas and the elevations of the community.
Floodplain	Any land area subject to inundation by floodwaters from any source.
Floodplain Evaluation Report	A technical report which evaluates effects of the floodplain encroachment concerning the six key items identified in 23 CFR 650.111(b)(c)(d) verified by results of the Location Hydraulic Study (same as Figure 804.7A Technical Information for Location Hydraulic Study located in chapter 804 of the Highway Design Manual), but in greater detail. This report is required in situations where it is uncertain or clear that a project may involve a significant encroachment. This report is to be used as a backup for the Environmental Assessment/Finding of No Significant Impact (EA/FONSI) or an Environmental Impact Statement (EIS). The risks, impacts, and mitigation measures must be summarized in the NEPA document.
Floodplain Values	Fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aqua culture, forestry, natural moderation of floods, water quality maintenance, groundwater discharge, etc.

Term	Note
Floodway	The channel of a river or other watercourse, plus any adjacent floodplain areas, which is designated a floodway by a public agency, that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without cumulatively increasing the water-surface elevation more than one foot above the BFE. (Since the one foot is already accounted for, no increase of any amount in the BFE is allowed in the floodway.)
Floodway Fringe	The portion of the 100-year floodplain that is not within the floodway and in which development and other forms of encroachment may be permitted under certain circumstances.
Fossil	Any remains, trace, or imprint of a plant or animal that has been preserved in the earth's crust since some past geologic time (Bates and Jackson 1980:243).
Fragmentation	Reduction of a large habitat area into small, scattered remnants; reduction of leaves and other organic matter into smaller particles.
Friable	Easily crumbled (as in friable soil).
Freeway	A divided arterial highway with full control of access and with grade separations at intersections.
G	
Geometric Design	The design of the physical features of a road, such as alignment, grades, sight distances, widths, slopes, etc., many of which are dictated by the design speed.
Goods Movement	The transportation of commodities by any or all of the following commercial means; aircraft, railroad, ship, or truck.
Greenhouse Gas (GHG)	Greenhouse gases can be naturally occurring or man-made. Greenhouse gases include, but are not limited to, the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafloride.

Term	Note
H	
Habitat	Place where a plant or animal lives.
Habitat Protection	Ensuring appropriate uses of land to maintain and optimize species habitat values.
High Occupancy Toll (HOT) Lanes	New HOV lanes that allow single occupant vehicles access for a fee.
High Occupancy Vehicle (HOV) Lanes	A lane of freeway reserved for the use of vehicles with set minimum number of occupants. Buses, taxis, carpools (which satisfy the occupancy minimum), and motorcycles generally may use HOV lanes.
Holocene	The second epoch of the Quaternary Period characterized by man and modern animals.
Hydric Soil	Soil subject to saturation or inundation.
I	
Igneous Rocks	Formed when magma (liquid rock material) cools below the earth's surface or when lava cools above ground.
Impacts	Reasonably predictable changes in the environment resulting from a proposed project. Impacts can be adverse or beneficial, and can be classified as direct, indirect, or cumulative.
Indirect Effects	Effects that are caused by an action and occur later in time, or at another location, yet are reasonably foreseeable.
Initial Study (IS)	Under CEQA, the Initial Study is prepared to determine whether there may be significant environmental effects resulting from a project. The Initial Study is attached to the Negative Declaration or Mitigated Negative Declaration. It can become the basis of an EIR if it concludes that the project may cause significant environmental effects that cannot be mitigated below the level of significance.

Term	Note
Initial Study/Environmental Assessment (IS/EA)	An assessment of a proposed project's environmental impacts and recommended methods for avoiding or mitigating any significant adverse impacts. A Draft IS/EA is circulated for public review and comment. A Final IS/EA includes responses to public and agency comments and revisions to the Draft IS/EA.
Interchange	A system of interconnecting roadways in conjunction with one or more grade separations providing for the routing of traffic between two or more roadways on different levels.
Intermodal Surface Transportation Efficiency Act (ISTEA)	Federal transportation legislation adopted in 1991. It provided increased funding and program flexibility for multimodal transportation programs. Upon its expiration, ISTEA was succeeded by TEA-21.
Interregional Improvement Program (IIP)	One of two component funding source programs that ultimately make up the State Transportation Improvement Program (STIP). The IIP receives 25% of the funds from the State Highway account. The IIP is the source of funding for the ITIP.
Interregional Transportation Improvement Program (ITIP)	A statewide program of projects, developed by Caltrans for interregional projects that are primarily located outside of urbanized areas. The ITIP has a 4-year planning horizon and is updated every two years. It is submitted to the CTC along with the FTIP and taken together they are known as the STIP.
Interregional Transportation Strategic Plan (ITSP)	A plan that describes and communicates the framework in which the state will carry out its responsibilities for the Interregional Transportation Improvement Program (ITIP).
L	
Lane Numbering	On a multilane roadway, the lanes available for through travel in the same direction are numbered from left to right when facing in the direction of travel.
ldn	Average noise over one day and night.

Term	Note
Lead Agency (CEQA)	"Lead Agency" means the public agency which has primary responsibility for carrying out or approving a project which may have a significant effect on the environment and preparing the environmental document.
Lead Agency (NEPA)	The agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement.
leq	A measure of the average noise level during a specified period of time.
leq(h)	Equivalent or average noise level for the noisiest hour.
Level of Service (LOS)	A measure describing operational conditions within a traffic stream. It measures such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The six defined levels of services use letter designations from A to F, with Level of Service A representing the best operating conditions and Level of Service F representing the worst. Each Level of Service represents a range of operating conditions.
Liquefaction	The loss in the shearing resistance of a cohesionless soil, caused by an earthquake wave. The soil is turned into a fluid mass.
Lithic	Consisting of or relating to stone or rock.
Littoral	Shallow water of a lake in which light penetrates to the bottom, permitting submerged, floating, and emergent vegetative growth; also shore zone of tidal water between high-water and low-water marks.
Load Limits	Weight restrictions used to prohibit vehicles that exceed a specified weight from using a transportation facility.
Location Hydraulic Study (same as Figure 804.7a Technical Information for Location Hydraulic Study Located in Chapter 804 of the Highway Design Manual)	The preliminary investigative study to be made of base floodplain encroachments by a proposed highway action. (This study must be performed by a registered engineer with hydraulic expertise.)

Term	Note
M	
Magnitude	A measure of the strength of an earthquake or the strain energy released by it.
Maintenance Area	A federal term to describe any geographic region of the United States designated non-attainment pursuant to the Clean Air Act Amendments of 1990 (CAAA) and subsequently re-designated to attainment subject to the requirement to develop a maintenance plan under Section 175A of the CAAA.
Major Federal Action	Section 1508.18 of the CEQ Regulations states that "Major Federal action" includes actions with effects that may be major and which are potentially subject to Federal control and responsibility. Major reinforces but does not have a meaning independent of significantly (Sec. 1508.27).” An EIS must be prepared for any major federal action significantly affecting the quality of the human environment.
Major Investment	Federal regulations define a “major metropolitan transportation investment” as “a high-type highway or transit improvement of substantial cost that is expected to have a significant effect on capacity, traffic flow, level of service, or mode share at the transportation corridor or subarea scale” (23 CFR 450.104).
Marsh	Wetland dominated by grassy vegetation, such as cattails and sedges.
Maximum Credible Earthquake (MCE)	The maximum intensity earthquake that is assumed to occur closest to the site. This earthquake is also described as the maximum magnitude earthquake, or maximum earthquake.
Median	The portion of a divided highway separating the traveled ways in opposite directions.
Migration	Intentional, directional, and usually seasonal movement of animals between two regions or habitats; involves departure and return of the same individual.

Term	Note
Mitigated Negative Declaration (MND)	The CEQA document that is used when the Initial Study concludes that a project's potential significant effect on the environment can be reduced below the level of significance with the incorporation of mitigation measures.
Mitigation Measure	Action that avoids, minimizes, or compensates for the significant impacts of a project.
Mitigation Monitoring and Reporting Program (MMRP)	A plan for ensuring that measures to mitigate adverse project impacts are implemented. The plan is a documentation of the commitments made by the Lead Agency to avoid, minimize, and mitigate project impacts and is used as a tool to track their implementation.
Mixed-Flow Lane	A standard traffic lane for all types of vehicles, including single-occupant cars, carpools, vans, buses, and trucks.
Monitoring Well	A well drilled at a hazardous waste management site or Superfund site to collect groundwater samples for the purpose of physical, chemical, or biological analysis to determine the amounts, types, and distribution of contaminants in the groundwater beneath the site.
Moving Ahead For Progress In The 21st Century Act (MAP-21)	MAP-21 was signed into law by President Barack Obama on July 6, 2012. Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005.
Multimodal	Pertaining to more than one method of traveling.
N	
National Environmental Policy Act (NEPA)	Enacted in 1969, NEPA requires all federal agencies to consider environmental factors through a systematic interdisciplinary approach before committing to a course of action. The NEPA process is an overall framework for the environmental evaluation of federal actions.

Term	Note
National Highway System (NHS)	Consists of 155,000 miles (plus or minus 15 percent) of the major roads in the U.S. Included will be all interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors.
National Pollutant Discharge Elimination System Permit (NPDES)	"…is required for facilities and activities that discharge waste into surface waters from a confined pipe or channel."
Nonattainment Area	"Nonattainment Area" means any geographic region of the United States that the U.S. Environmental Protection Agency (U.S. EPA) has designated as a nonattainment area for a transportation related pollutant(s) for which a National Ambient Air Quality Standard (NAAQS) exists.
Nonpoint Source	A "nonpoint source" is a dispersed source of pollution that is not identifiable as to specific location, but may be identified as contributing to water quality degradation from a tributary drainage area, e.g., pesticide residues distributed over an agricultural area.
Notice of Availability (NOA)	"Notice of Availability" means a formal public notice under NEPA announcing the availability of a completed EA, DEIS, or FEIS. For EISs, publication of such notice in the Federal Register is required.
Notice of Completion (NOC)	The CEQA notice submitted to the State Clearinghouse when an EIR, MND, or ND is completed.
Notice of Determination (NOD)	A "Notice of Determination" is a formal written notice under CEQA filed by a lead state agency when approving any project subject to the preparation of an EIR, MND, or ND.
Notice of Exemption (NOE	"Notice of Exemption" means a brief notice which may be filed by a public agency after it has decided to carry out or approve a project and has determined that the project is exempt from CEQA.

Term	Note
Notice of Intent (NOI)	Under NEPA, the “Notice of Intent” is a notice that an Environmental Impact Statement will be prepared and considered. The Notice of Intent is published in the Federal Register by the lead federal agency. Under CEQA, a lead agency must also provide a “Notice of Intent to Adopt” an ND or MND to the public, responsible agencies, trustee agencies, and the county clerk of each county in which the proposed project is located.
Notice of Preparation (NOP)	"Notice of Preparation" is the CEQA notice that an EIR will be prepared for a project.
O	
Overcrossing (O.C.)	A local road structure that bridges over a state highway.
Oxygen Demand	Materials such as food waste and dead plant or animal tissue that use up dissolved oxygen in the water when they are degraded through chemical or biological processes. Chemical and biochemical oxygen demand (COD and BOD) are measures of the amount of oxygen consumed when a substance degrades.
P	
Paleontologic Species	A morphologic species based on fossil specimens. It may include specimens that would be considered specifically distinct if living individuals could be observed (Bates and Jackson 1980:451).
Paleontological Resource	A locality containing vertebrate, invertebrate, or plant fossils (i.e., fossil location, fossil bearing formation, or a formation with the potential to bear fossils).
Paleontology	The study of life in past geologic time based on fossil plants and animals and including phylogeny, their relationships to existing plants, animals, and environments, and the chronology of the earth's history (Bates and Jackson 1980:451).

Term	Note
Participating Agency	Under 23 USC 139, a participating agency is any federal or non-federal agency (state, tribal, regional, or local government agency) that may have an interest in the project. Nongovernmental organizations and private entities cannot serve as participating agencies.
Pleistocene	The first epoch of the Quaternary Period characterized by the first indications of social life in man.
Pliocene	The first epoch of the Tertiary Period characterized by the transition from hominids to early humans.
Point Source	Distinct location from which wastes are discharged (e.g., pipes and sewers).
Practicable	The term *practicable* means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
Probabilistic Seismic Hazard Analysis	Seismic parameters are estimated using several significant seismic sources, the likelihood of occurrence within a given time frame, and the uncertainty of the estimate. Caltrans uses probabilistic methods for important bridges and certain seismic retrofit projects.
Project (CEQA)	California Public Resources Code §21065 defines a “project” as an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following: a) An activity directly undertaken by any public agency. b) An activity undertaken by a person which is supported, in whole or in part, throughout contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies. c) An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

Term	Note
Project (FHWA)	23 Code of Federal Regulations §1.2 defines a project as an undertaking by a State highway department for highway construction, including preliminary engineering, acquisition of rights-of-way and actual construction, or for highway planning and research, or for any other work or activity to carry out the provisions of the Federal laws for the administration of Federal-aid for highways.
Purpose and Need Statement	The section of the Draft Initial Study/Environmental Assessment (IS/EA) dedicated to defining the problems to be solved (need) and what the project will accomplish (purpose).
Q	
Quaternary Period	A geologic period, which includes both the Pleistocene and Holocene Periods, comprising the second portion of the Cenozoic era; characterized by the rise of man and modern animals.
R	
Receptors	Term used in air quality and noise studies that refers to houses or businesses that could be affected by a project.
Record of Decision (ROD)	The “Record of Decision” is a formal written statement, required under NEPA, wherein a federal lead agency must present the basis for its decision to approve a selected project alternative, summarize mitigation measures incorporated into the project, and document any required Section 4(f) approval.
Recurrence Interval	The average time interval between earthquake occurrences of equal magnitude on the same fault.
Regulatory Agency	An agency that has jurisdiction by law.
Regional Improvement Program (RIP)	One of two component funding source programs that ultimately make up the STIP. The RIP receives 75% of the funds from the State Highway account. This 75% is then distributed to the MPOs and RTPAs by a formula. The RIP is the source of funding for the FTIP.

Term	Note
Regional Transportation Improvement Program (RTIP)	RTIP is a synonym for the FTIP and it refers to the programming done by the MPO/RTPA as part of the development of the RTP.
Regional Transportation Plan (RTP)	A federal and state mandated planning document prepared by MPOs and RTPAs. The plan describes existing and projected transportation needs, conditions, and financing affecting all modes within a 20-year horizon.
Regional Transportation Planning Agency (RTPA)	A State designated single or multi-county agency responsible for regional transportation planning. RTPAs are also known as Local Transportation Commissions or Councils of Governments and are usually located in rural or exurban areas.
Regulatory Earthquake Fault Zones	Areas along faults defined as active by the California Geological Survey, typically one-quarter mile or less in width, where special studies are required to determine if there is a surface rupture hazard. Caltrans' broader definition of active faults results in other areas that also need to be addressed for surface rupture. A site near a fault defined as active by Caltrans criterion also requires a review of surface rupture potential.
Regulatory Floodway	A floodplain area that is reserved in an open manner by federal, state, or local requirements, i.e., unconfined or unobstructed either horizontally or vertically, to provide for the discharge of the base flood so that the cumulative increase in water surface elevation is no more than a one-foot increase. (Since the one foot is already accounted for, no increase more than 0.00 feet is allowed)
Responsible Agency	A "public agency, other than the lead agency which has responsibility for carrying out or approving a project" (PRC 21069). The CEQA Guidelines further explains the statutory definition by stating that a "responsible agency" includes "all public agencies other than the Lead Agency which have discretionary approval power over the project" (14 CCR 15381). State and local public agencies that have discretionary authority to issue permits, for example, fall into this category.

Term	Note
Revegetation	Planting of indigenous plants to replace natural vegetation that is damaged or removed as a result of highway construction projects or permit requirements.
Right-of-Way	A general term denoting land, property, or interest therein, usually in a strip acquired for or devoted to transportation purposes.
Riparian	Along banks of rivers and streams; riverbank forests are often called gallery forests.
Riprap	Randomly placed rock or concrete used to strengthen an embankment or protect it from erosion.
Risk Assessment	An economic and/or non-economic assessment of the impacts associated with the floodplain encroachment(s). It is meant to be more general in detail than a risk analysis. The format and content of the Summary Floodplain Encroachment Report form is the minimum required for a risk assessment.
Rotational Slide or Slump	Landslide movement due to forces that cause a concave upwards surface in the mass.
Ruderal	Disturbed area with a prevalence of introduced weedy species. Ruderal habitats are associated with unpaved highway shoulders and weedy areas around and between dwellings and other structures.
S	
The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU)	SAFETEA-LU authorized the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005 to 2009.

Term	Note
Scenic Highway System	A list of the highways that are eligible to become, or are designated as, official scenic highways. Many state highways are located in areas of outstanding natural beauty. California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, §260 et seq.
Scoping	NEPA defines scoping as an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action (40 CFR §1501.7). Under CEQA, scoping is designed to examine a proposed project early in the EIR environmental analysis/review process, and is intended to identify the range of issues pertinent to the proposed project and feasible alternatives or mitigation measures to avoid potentially significant environmental effects.
Scour	Erosion caused by moving water.
Seiche	A wave oscillation of the surface of water in an enclosed basin initiated by an earthquake.
Senate Bill 45	California State Senate Bill 45, passed in 1997, revised transportation funding priorities at the State level, allocating 75% of capital outlay dollars to regional agencies, and 25% to the State.
Setbacks	The minimum horizontal distance slopes shall be set back from site boundaries according to Chapter 70 of the Uniform Building Code. Also applies to the minimum horizontal distance required from faults to structures (see California Geological Survey Special Publication 42, pp. 27 and 29).
Settlement	The gradual downward movement of an engineered structure due to compression of the soil below the structure foundation.

Term	Note
Significance (CEQA)	CEQA defines a "significant effect on the environment" as “a substantial, or potentially substantial, 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 economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant” (15382). CEQA requires that the lead agency identify each “significant effect on the environment” resulting from the project and avoid or mitigate it. The CEQA Guidelines include mandatory findings of significance for certain effects, thus requiring the preparation of an EIR.
Significant Encroachment	A highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood related impacts: a) A significant potential for interruption or termination of a transportation facility, which is needed for emergency vehicles or provides a community's only evacuation route. b) A significant risk *(to life or property)*, or c) A significant adverse impact on natural and beneficial floodplain values.
Soil Creep	The gradual, steady downhill movement of soil and loose rock material.
Southern California Association of Governments (SCAG)	Southern California Association of Governments is a federally designated Metropolitan Planning Organization for the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura and is a Project partner agency.
Special Flood Hazard Areas (SFHAS)	The areas delineated on an NFIP map as being subject to inundation by the base (100-year) flood.

Term	Note
Special-Status Species	Plant or animal species that are either (1) federally listed, proposed for or a candidate for listing as threatened or endangered; (2) bird species protected under the federal Migratory Bird Treaty Act; (3) protected under state endangered species laws and regulations, plant protection laws and regulations, Fish and Game codes, or species of special concern listings and policies; or (4) recognized by national, state, or local environmental organizations (e.g., California Native Plant Society).
State Clearinghouse Review	The Draft Initial Study/Environmental Assessment (IS/EA) is published in the State Clearinghouse Review for public review and comment.
State Highway Operations and Protection Program (SHOPP)	A legislatively created program to maintain the integrity of the State Highway System. It is tapped for safety and rehabilitation projects. SHOPP is a multi-year program of projects approved by the Legislature and Governor. It is separate from the STIP.
State Implementation Plan (SIP)	The state's plan for attaining the National Ambient Air Quality Standards. Per federal law, transportation plans and programs in air quality non-attainment areas must conform to the SIP.
State Transportation Improvement Program (STIP)	A statewide or bundled prioritized list of transportation projects covering a period of four years that is consistent with the long-range statewide transportation plan, MTPs, and FTIPs, and required for projects to be eligible for funding under Title 23 USC and title 49 USC. Chapter 53.
State Water Resources Control Board	The principal authority of California for regulation of the quantity and quality of waters of the State, established by act of the legislature in 1967. It assumed responsibility for administration of the Porter-Cologne Water Quality Control Act of 1969.
Statement of Overriding Consideration	Pursuant to CEQA, a written explanation prepared by a public agency that explains why it approved a project, despite the presence of significant, unavoidable environmental impacts.
Statewide Transportation Plan	The official statewide, intermodal transportation plan that is developed through the statewide transportation planning process.

Term	Note
Storm Water Pollution Prevention Plan (SWPPP)	An SWPPP is prepared to evaluate sources of discharges and activities that may affect storm water runoff, and implement measures or practices to reduce or prevent such discharges.
Stratum	A layer of sedimentary rock; plural is strata.
Stratigraphy	The study of rock layers, especially their formation, distribution, composition, and age.
Subsidence	A localized mass movement that involves the gradual downward settling or sinking of the earth's surface.
Swale	A wide shallow depression in the ground to form a channel for storm water drainage. Bio-swales or biofiltration swales are densely vegetated to filter runoff.
T	
Technical Studies	A detailed study examining a specific environmental category (i.e., air quality, noise).
Threatened	A species that is likely to become endangered in the foreseeable future in the absence of special protection.
Tiering	The process of preparing multiple levels of an environmental review, typically including general matter in broad environmental documents with subsequent narrower environmental documents.
Total Dissolved Solids	Concentration of all substances dissolved in water (solids remaining after evaporation of a water sample).
Tract	A standard geographical unit of measurement defined by the U.S. Census Bureau.
Traffic Accident Surveillance and Analysis System (TASAS)	A system that provides a detailed list and/or summary of accidents that have occurred on highways, ramps, or intersections that are part of the State Highway System. Accidents can be selected by location, highway characteristics, accident data codes, and combinations of the above.

Term	Note
Traffic Forecast	A best estimate of future roadway travel conditions, demand, and resulting volumes.
Traffic Operations	The safe and efficient movements of vehicles, people, and goods. The typical measures of effectiveness are travel times, delay, accidents per vehicles miles, and level of service.
Translational Slide	Landslide movement that occurs predominantly along planar or gently undulating surfaces.
Transportation Control Measure (TCM)	"... is any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in §108 of the Clean Air Act or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the above, vehicle technology-based, fuel-base, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of project-level conformity.
Transportation Demand Management (TDM)	"Demand-based" techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules enabling employees to commute to and from work outside of the peak hours.
Transportation Equity Act For The 21st Century (TEA-21)	Federal legislation signed into law in 1998, authorizing highway, highway safety, transit and other surface transportation programs for the following six years. TEA 21 built on the initiatives established in the 1991 ISTEA.
Transportation Improvement Plan (TIP)	A staged, multiyear, intermodal program of transportation projects which is consistent with the metropolitan transportation plan. It is a federal term.
Transportation System Management (TSM)	TSM is 1) a process oriented approach to solving transportation problems considering both long and short range implications; and 2) a services and operations process oriented in which low capital, environmentally-responsive, efficiency-maximizing improvements are implemented on existing facilities.

Term	Note
Trustee Agency	"…a state agency having jurisdiction by law over natural resources affected by project which are held in trust for the people of the State of California. Trustee agencies include: a) the California Department of Fish and Game [Wildlife] with regard to the fish and wildlife of the state, to designated rare or endangered native plants, and to game refuges, ecological preserves, and other areas administered by the department; b) the State Lands Commission with regard to state owned "sovereign" lands such as the beds of navigable waters and state school lands; c) the State Department of Parks and Recreation with regard to units of the State Park System; and d) the University of California with regard to sites within the Natural Land and Water Reserves System" (14 CCR 15386).
Tsunami	A water wave of local or distant origin that results from large-scale displacements associated with large earthquakes, major submarine slides, or volcanic eruption.
Turbidity	Cloudiness (or a measure of the cloudiness in water due to the presence of suspended particulates).
Type I Projects	A proposed federal or federal-aid highway project for the construction of a highway on new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. Other specific activities that qualify as a Type I project are defined in 23 CFR 772.
Type Ii Projects	Usually called a retrofit project, a proposed federal or federal-aid highway project for noise abatement on an existing highway.
Type III Projects	A federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.
U	
Undercrossing (U.C.)	A state highway structure that bridges over a local road.

Term	Note
Unusual Circumstances (NEPA)	For any action which would normally be classified as a CE but could involve unusual circumstances, Caltrans is required to conduct appropriate environmental studies to determine whether a categorical exclusion is proper (23 CFR 771.117(b)). Unusual circumstances include actions that involve: 1. Significant environmental impacts; 2. Substantial controversy on environmental grounds; 3. Significant impact to properties protected under 4(f) of the USDOT Act or Section 106 of the National Historic Preservation Act ; 4. Inconsistencies with any federal, state or local law relating to environmental impacts.
V	
Vertical Clearance	The unobstructed distance above the roadway surface; the height at which a vehicle may pass beneath a structure, such as a bridge, without any physical contact.
Viewshed	View; total visible area from the position of a single observer or the total visible area from observers in multiple positions.
Visual Resources	The natural and artificial features of a landscape that characterize its form, line, texture, and color.
Visual Unity	The visual coherence and compositional harmony of a landscape when considered as a whole.
Volume to Capacity Ratio (V/C)	The relationship between the demand for trips and the number of trips that can be accommodated.
W	
Watershed	The area of land that drains into a specific waterbody.

Term	Note
Waters of the United States	As defined by the United States Army Corps of Engineers (USACE) in 33 CFR 328.3(a): 1. All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; 2. All interstate waters including interstate wetlands; 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters: i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or ii. (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or iii. (iii) Which are used or could be used for industrial purposes by industries in interstate commerce; 4. All impoundment of waters otherwise defined as waters of the United States under this definition; 5. Tributaries of waters identified in paragraphs 1-4; 6. The territorial seas; 7. Wetlands adjacent to waters (waters that are not wetlands themselves) identified in paragraphs 1-6.
Weir	A dam in a stream to raise the water level or divert its flow

Term	Note
Wetland	Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Sources: U.S. EPA n.d.

Appendix D. Environmental Commitments Record

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Permit Type	Agency	Date Submitted	Date Received	Expiration	Fee	Notes	Permit Requirement Completed	
							Name	Date
1602	California Department of Fish and Wildlife							
401	Regional Water Quality Control Board							
404	United States Army Corps of Engineers							

Date of ECR: June 2020

Project Phase:
☒ **PA/ED (*DED/FED*)**
☐ **PS&E Submittal_____ %**
☐ **Construction**

ENVIRONMENTAL COMMITMENTS RECORD
I-10 EB TCL Improvement Project

08-SBd-10 PM R36.4/R39.2
08-RIV-10 PM R0.0/R0.2

EA 08-1F760
PN 0815000050
Generalist: Hannah Duarte
ECL: _____

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UTILITIES AND EMERGENCY SERVICES										
UT-1 During final design, if utility relocation is determined to be necessary, the Project Engineer will endeavor to relocate utilities within the Caltrans ROW or other existing public ROWs and/or easements. If relocation outside of existing or the additional public ROWs and/or easements required for the Project is necessary, the Project Engineer will focus on relocating those facilities to minimize environmental impacts as a result of Project construction and ongoing maintenance and repair activities. In addition, a utility relocation plan will be prepared in consultation with affected utility providers/owners for the utility facilities that will need to be relocated, removed, or protected in-place.	2.7-4	IS/EA Community Impact Analysis (CIA)	I-10 EB TCL Improvement Project Engineer	Final Design						
UT-2 Prior to grading activities, SBCTA's Resident Engineer will require the design/build contractor to notify USA at least 2 days prior to excavation by calling 811 to require that all utility owners within the Project disturbance limits identify the locations of underground transmission lines and other utility facilities.	2.7-4	IS/EA CIA	SBCTA Resident Engineer	Prior to Grading Activities						
UT-3 To minimize risk of fires during construction activities, Caltrans and SBCTA will require implementation of the following: a. Coordinate with CAL FIRE and local fire departments to identify and maintain defensible spaces around active construction areas	2.7-4	IS/EA CIA	Caltrans/SBCTA	Prior to Construction						

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b. Coordinate with CAL FIRE and local fire departments to identify and maintain firefighting equipment (e.g., extinguishers, shovels, water tankers) in active construction areas c. Post emergency services phone numbers (i.e., fire, emergency medical, police) in visible locations in all active construction areas										
TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES										
TR-1 During final design, a TMP will be prepared for the Project. Key elements to be considered in the TMP include the following: • Public information • Motorist information strategies • Incident management • Construction strategies • Demand management • Alternative route strategies	2.8-28	IS/EA Traffic Operational Analysis Report	Caltrans/SBCTA	During Final Design						
VISUAL AND AESTHETICS										
VIS-1 During final design, lighting fixtures will be selected to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with non-glare hoods and focused within the Project ROW. The lighting plan will be reviewed and approved by the City of Yucaipa and City of Calimesa Resident Engineer and Caltrans District 8 Landscape Architect prior to construction to ensure compliance with these criteria.	2.9-18	IS/EA Visual Impact Assessment (VIA)	City of Yucaipa and City of Calimesa Resident Engineer/Caltrans District 8 Landscape Architect	During Final Design						
VIS-2 During final design, a highway landscape plan will be prepared that identifies all opportunities to use areas within the state ROW for full landscaping consistent with the Caltrans HDM. This will include landscaping for graded areas with plant species consistent with adjacent vegetation and enhancement of new Project structures, such as ramps and tunnels, to the extent feasible. This plan will incorporate all applicable procedures and requirements detailed in the Caltrans HDM, Section 902.1, Planting Guidance,	2.9-18	IS/EA VIA	Caltrans District 8 Landscape Architect	During Final Design						

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General Guidance for Freeways and Expressways (Caltrans 2018b), and policies of the City of Yucaipa's General Plan and Municipal Code, as applicable. Selected vegetation and irrigation will utilize drought resistant landscaping and recycled water, when feasible, and incorporate native and climate appropriate vegetation, when appropriate, as outlined in California Streets and Highways Code Section 92.3.										
VIS-3 During final design, the City of Yucaipa Resident Engineer will verify that design elements are consistent with the vision for the City of Yucaipa regarding aesthetic enhancements, scenic corridors, landscaping, streetscapes, materials, and colors.	2.9-19	IS/EA VIA	City of Yucaipa Resident Engineer	During Final Design						
CULTURAL RESOURCES										
CR-1 If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	2.10-8	IS/EA Historic Property Survey Report (HPSR) Archaeological Survey Report (ASR)	Caltrans/SBCTA	During Construction						

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CR-2 During construction, if human remains are discovered, California H&SC Section 7050.5 states that further disturbances and activities will stop in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted within 24 hours of the discovery. If the remains are thought by the coroner to be Native American, the coroner will notify NAHC, who, pursuant to PRC Section 5097.98, will then notify the MLD. At this time, the person who discovered the remains will contact Gary Jones, District 8 Native American Coordinator, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed, as applicable.	2.10-8	IS/EA HPSR ASR	Caltrans/SBCTA	During Construction						
HYDROLOGY AND FLOODPLAIN										
HYD-1 During the PS&E phase, SBCTA and the Caltrans Resident Engineer will complete a detailed survey of the Wilson Creek Channel and bridge configuration and soffit to verify the actual freeboard amount. The freeboard determination will not alter the floodplain analysis but will be required to be documented with the San Bernardino County Flood Control District for the encroachment permit process.	2.11-16	IS/EA Location Hydraulic Study	SBCTA/Caltrans Resident Engineer	During the Plan, Specification, and Estimate Phase						
WATER QUALITY AND STORMWATER RUNOFF										
WQ-1 During construction, SBCTA and the Caltrans Resident Engineer will ensure the Project complies with the provisions of the Caltrans NPDES Statewide Storm Water Permit (Order No. 2012-0011-DWQ, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, Order WQ 2015-0036-EXEC, and Order WQ 2017-0026-EXEC, NPDES No. CAS000003) and the NPDES General Permit for Storm Water Discharges of Stormwater Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ), and any subsequent permit in effect at the time of construction.	2.12-14	IS/EA Water Quality Assessment Report (WQAR)	SBCTA/Caltrans Resident Engineer	During Construction						
WQ-2 Prior to construction, SBCTA and the Caltrans Resident Engineer will ensure An SWPPP is prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP will identify the sources of pollutants that may affect the quality of stormwater and include the construction site BMPs to control pollutants such as sediment control, catch basin inlet protection, construction materials management and non-stormwater BMPs. Additional BMP reference	2.12-14	IS/EA WQAR	SBCTA/Caltrans Resident Engineer	Prior to Construction						

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material is contained within the *Project Planning and Design Guide* (Caltrans 2019m) and *Construction Manual* (Caltrans 2019n). These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.										
WQ-3 If dewatering is required during construction, SBCTA and the Caltrans Resident Engineer will ensure the Project's construction site dewatering complies with the General Waste Discharge Requirements for Discharges to Surface Waters That Pose an Insignificant (*De minimis*) Threat to Water Quality (Order No. R8-2015-0004, NPDES No. CAG998001) and any subsequent updates to the permit at the time of construction. This permit addresses temporary dewatering operations during construction. Dewatering BMPs must be used to control sediment and pollutants, and the discharges must comply with the WDRs issued by the Santa Ana RWQCB.	2.12-15	IS/EA WQAR	SBCTA/Caltrans Resident Engineer	During Construction						
WQ-4 During construction, SBCTA and the Caltrans Resident Engineer will ensure the Project design pollution prevention BMPs will be implemented, such as preservation of existing vegetation, slope/surface protection systems (benching/terracing, slope rounding, reducing gradients [incorporate 4:1 slopes or flatter]).	2.12-15	IS/EA WQAR	SBCTA/Caltrans Resident Engineer	During Construction						
WQ-5 During the PS&E phase, SBCTA and Caltrans will ensure Caltrans-approved treatment BMPs will be implemented consistent with the requirements of NPDES Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003, and any subsequent permits in effect at the time of construction. Treatment BMPs may include DPPIA, infiltration devices, biofiltration strips and swales, detention devices, media filters, MCTT, wet basin, open graded friction course, and pervious pavement.	2.12-15	IS/EA WQAR	SBCTA/Caltrans	During the Plan, Specification, and Estimate Phase						

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GEOLOGY / SOILS										
GEO-1 Prior to completion of final design, SBCTA's geotechnical engineer will ensure a final design-level geotechnical report is prepared. Recommendations from the final design-level geotechnical report will be incorporated into the final Project plans and specifications during the final design phase to ensure the geotechnical stability of the Project. This report will document soil related constraints and hazards, such as slope instability, settlement liquefaction, or related secondary seismic effects, which may be present. The report will also include: • Evaluation of expansive and potentially corrosive soils and recommendations regarding construction procedures and/or design criteria to reduce the effect of these soils on Project development • Identification of potential liquefiable areas within the Project limits and recommendations for mitigation measures • Demonstration that the design of all proposed retaining walls is geotechnically suitable for soils within the Project limits • Geotechnical recommendations for the specific foundation design and earthwork construction considered for this Project	2.13-17	IS/EA Preliminary Geotechnical Report	SBCTA	Prior to Completion of Final Design						
PALEONTOLOGY										
PAL-1 SBCTA will ensure a paleontological mitigation plan is prepared by a qualified Project Paleontologist/Principal Investigator prior to completion of the final design phase of this Project for all Project-related ground disturbance in areas of paleontological sensitivity. All elements of the paleontological mitigation plan will follow the format published in the Caltrans Standard Environmental Reference (SER). The paleontological mitigation plan will detail the measures to be implemented and include a requirement for Worker's Environmental Awareness Program (WEAP) training to address the required interfacing of paleontological and construction personnel.	2.14-11	IS/EA Paleontological Identification/Evaluation Report (PIR/PER)	SBCTA	Prior to Completion of Final Design						

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PAL-2 In the event that new and unanticipated paleontological resources are encountered during construction, SBCTA will ensure that a qualified principal paleontologist evaluate each paleontological resource discovered. If the paleontological resource is determined to be significant, monitoring and mitigation will be required.	2.14-11	IS/EA PIR/PER	SBCTA	During Construction						
HAZARDOUS WASTE AND MATERIALS										
HAZ-1 ACMs were detected in the Oak Glen Creek Bridges (Bridge No. 54-0648L and 54-0648R). During construction, SBCTA will ensure that any work that will physically impact ACMs will be conducted in accordance with Caltrans' SSP 14-11.16, Asbestos-Containing Construction Materials in Bridges, SCAQMD Rule 1403, and NESHAP.	2.15-16	IS/EA Initial Site Assessment (ISA)	SBCTA	During Construction						
HAZ-2 During construction, SBCTA will ensure the removal of any treated wood objects be handled as TWW and managed per the Alternative Management Standards for Treated Wood Waste, as required by Chapter 34 of the Title 22 CCR Section 67386.1 through 67386.12.	2.15-17	IS/EA ISA	SBCTA	During Construction						
HAZ-3 Prior to construction, SBCTA will ensure a LCP is prepared to protect worker safety from exposure to lead in ADL soils, striping, and LBP in bridges during construction. The LCP would be prepared by a Certified Industrial Hygienist and in accordance with Title 8 CCR Section 1532.1.	2.15-17	IS/EA ISA	SBCTA	Prior to Construction						
HAZ-4 The Sorensen Engineering (32032 Dunlap Boulevard, Yucaipa, California) property is currently open and being assessed by the RWQCB for VOC contamination in soil, soil vapor, and groundwater. The ISA has identified this property as a REC site with a moderate hazard ranking because groundwater flows northeast away from the Project corridor in the vicinity of the Sorensen facility. The Project will avoid this property due to its moderate hazard risk ranking.	2.15-17	IS/EA ISA	SBCTA	During Final Design During Construction						
AIR QUALITY										
AQ-1 During construction, SBCTA will ensure that equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.	2.16-31	IS/EA Air Quality Assessment Report (AQAR)	SBCTA	During Construction						

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AQ-2 Prior to construction, SBCTA will ensure that environmentally sensitive areas (ESA) will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.	2.16-31	IS/EA AQAR	SBCTA	Prior to Construction						
AQ-3 During construction, SBCTA will ensure, to the extent feasible, that construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.	2.16-31	IS/EA AQAR	SBCTA	During Construction						
GREENHOUSE GAS										
GHG-1 During construction, SBCTA will ensure that idling will be limited to 5 minutes for delivery and dump trucks and other diesel-powered equipment.	3-85	IS/EA	SBCTA	During Construction						
GHG-2 During construction, SBCTA will ensure that truck trips are scheduled outside of peak morning and evening commute hours.	3-85	IS/EA	SBCTA	During Construction						
GHG-3 During construction, SBCTA will ensure that construction waste is minimized and the use of recycled materials maximized, which reduces consumption of raw materials, reduces landfill waste, and encourages cost savings.	3-85	IS/EA	SBCTA	During Construction						
GHG-4 During construction, SBCTA will ensure that measures to reduce consumption of potable water will be incorporated.	3-86	IS/EA	SBCTA	During Construction						
GHG-5 During construction, SBCTA will ensure that on-site recycling of existing project features is encouraged, such as metal beam guard railing, light standards, sub-base granular material, or native material that meets Caltrans specifications for incorporation into new work.	3-86	IS/EA	SBCTA	During Construction						
GHG-6 During construction, SBCTA will ensure that earthwork balance be implemented to reduce the need for transport of earthen materials by balancing cut and fill quantities.	3-86	IS/EA	SBCTA	During Construction						

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GHG-7 During construction, SBCTA will ensure that the need for electric lighting by using ultra-reflective sign materials that are illuminated by headlights is reduced.	3-86	IS/EA	SBCTA	During Construction						
GHG-8 SBCTA will ensure that measures are incorporated to improve energy efficiency will be implemented as part of the Project.	3-86	IS/EA	SBCTA	During Construction						
GHG-9 SBCTA will ensure that installation of solar to supply power to highway facility components or buildings will be implemented as part of the Project.	3-86	IS/EA	SBCTA	During Construction						
NOISE										
N-1 During construction, SBCTA will implement the following procedures to minimize temporary impacts from construction vibration: • Hours of vibration intensive activities, such as vibratory rollers, will be restricted to minimize adverse impacts on the residents. • The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible will be entitled to a preconstruction building inspection to document the preconstruction condition of that structure. • Vibration monitoring will be conducted during vibration intensive activities.	2.17-55	IS/EA Noise Study Report (NSR)	SBCTA	During Construction						
N-2 During site excavation and grading, SBCTA will ensure all construction equipment, fixed or mobile, is equipped with sound-control devices. No equipment will have an unmuffled exhaust.	2.17-55	IS/EA NSR	SBCTA	During Construction						
N-3 During Project construction, SBCTA will implement appropriate noise reduction measures to minimize temporary noise impacts, including turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources. To further minimize construction noise impacts on adjacent sensitive land uses, SBCTA will ensure that noise levels from contractor operations, between the hours of 9 p.m. and 6 a.m., will not exceed 86 dBA Lmax at a distance of 50 ft., in accordance with Caltrans	2.17-55	IS/EA NSR	SBCTA	During Construction						

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Standard Specifications in Section 14-8.02, "Noise Control," and Caltrans SSP 14-8.02.										
ENERGY										
E-1 During final design, SBCTA will ensure that any lighting proposed as part of the proposed roadway improvements are energy-efficient, which would include LED lighting, to the extent feasible.	2.18-8	IS/EA	SBCTA	Prior to the Completion of Final Design						
E-2 During final design, SBCTA will ensure that a construction efficiency plan be prepared, which may include the following: • Reuse of existing guard rail, steel, and lumber, wherever possible, such as for falsework, shoring, and other applications during the construction process. • Recycling of asphalt and concrete taken up from existing median shoulders, where practicable and cost-effective. • Use of newer, more energy-efficient equipment, where feasible, and maintenance of older construction equipment to keep in good working order. • Promoting of scheduling of construction operations to efficiently use construction equipment (i.e., only haul waste when haul trucks are full and combine smaller dozer operations into a single comprehensive operation, where possible). • Promotion of construction employee carpooling. • Reuse of existing sign panels with the implementation of overlays rather than full replacement sign panels.	2.18-8	IS/EA	SBCTA	Prior to the Completion of Final Design						
NATURAL COMMUNITIES										
NC-1 Non-impacted Disturbed Buckwheat Scrub, Unvegetated Wash, and Disturbed Riparian Scrub habitat within the BSA outside of the Project limits will be identified as ESAs. Prior to construction, exclusionary fencing will be installed around all ESAs under the supervision of a qualified biologist familiar	2.19-37	IS/EA Natural Environment Study (NES)	SBCTA/Caltrans	Prior to Construction						

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with the biological resources in the BSA to prevent accidental encroachment into these areas.										
NC-2 To prevent the introduction and spread of invasive species to and from Project work areas into ESAs, the Caltrans SSP 14-6.05, Invasive Species Control, will be implemented during work adjacent to Disturbed Buckwheat Scrub, Riparian Scrub, and aquatic resources.	2.19-37	IS/EA NES	SBCTA/Caltrans	During Construction						
NC-3 When Project activities are conducted during the fire season (as identified by the San Bernardino County Fire Authority) adjacent to any vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, and water tankers) will be available on site during all phases of Project construction to help minimize the potential for human-caused wildfires. Shields, protective mats, and/or other fire preventive methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will advise the construction contractors regarding fire risk from all construction-related activities.	2.19-37	IS/EA NES	SBCTA/Caltrans	During Construction						
NC-4 All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland (non-riparian) habitat areas. The designated upland areas will be located to prevent runoff from any spills from entering waters of the United States or CDFW-regulated streambed.	2.19-37	IS/EA NES	SBCTA/Caltrans	Prior to Construction						
WETLANDS AND OTHER WATERS										
WET-1 The SBCTA Resident Engineer will require the contractor to restore areas of temporary impacts on jurisdictional areas to pre-Project contours. The permanent loss of CDFW-regulated disturbed riparian habitat will be mitigated at a 1:1 ratio through participation in an approved in-lieu fee program, mitigation bank, or restoration or enhancement of riparian habitat in the same watershed as the Project. The appropriate permit applications will be submitted to state and federal regulatory agencies, including USACE, CDFW, and RWQCB. The permits issued by these agencies will finalize the mitigation requirements for impacts on jurisdictional areas.	2.20-37	IS/EA NES	SBCTA Resident Engineer	Prior to Construction						

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Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc. Or Permit	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Completed	Construction Task Completed	Environmental Compliance	
							Date/Initials	Date / Initials	YES	NO
ANIMAL SPECIES										
AS-1 To avoid impacts on nesting birds, any native vegetation removal or tree (native or exotic) trimming activities will occur outside of the nesting bird season. In the event that vegetation clearing is necessary during the nesting season (i.e., February 1 through September 30), a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the biologist, and construction or clearing will not be conducted within this buffer zone until the biologist determines that the young have fledged or the nest is no longer active.	2.22-28	IS/EA NES	SBCTA/Caltrans/Qualified Biologist	Prior to Construction						
AS-2 A preconstruction survey for BUOW will be conducted by a qualified biologist within 30 days prior to vegetation clearing/grading. If BUOW are found within 500 feet of the Project limits during the preconstruction survey, the biologist will determine appropriate measures necessary to ensure there is no take of active BUOW nests and the CDFW conservation requirements are met with regard to BUOW.	2.22-28	IS/EA NES	SBCTA/Caltrans/Qualified Biologist	Prior to Construction						
AS-3 A qualified bat biologist familiar with crevice-dwelling bat and bird species will conduct a presence/absence survey of the I-10 Bridge over Wilson Creek and Wildwood Creek and Yucaipa Creek culverts within the Project limits during the bat maternity season (April 1 through August 31) to assess the potential for use for bat roosting. The survey will be conducted at least one maternity season prior to construction to allow enough time for implementation of temporary exclusion measures if deemed necessary based on the survey results. If signs of bats are present, additional surveys including a combination of structure inspections, exit counts, and acoustic surveys will be conducted to ensure detection of day- and night-roosting bats. The qualified bat biologist will also perform preconstruction surveys or temporary exclusion within 2 weeks prior to construction, as bat and bird roosts can change seasonally.	2.22-28	IS/EA NES	SBCTA/Caltrans/Qualified Biologist	Prior to Construction						

Date of ECR: June 2020

Project Phase:
☒ **PA/ED (*DED/FED*)**
☐ **PS&E Submittal_____ %**
☐ **Construction**

ENVIRONMENTAL COMMITMENTS RECORD
I-10 EB TCL Improvement Project

08-SBd-10 PM R36.4/R39.2
08-RIV-10 PM R0.0/R0.2

EA 08-1F760
PN 0815000050
Generalist: Hannah Duarte
ECL: _____

Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc. Or Permit	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/ Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Completed	Construction Task Completed	Environmental Compliance	
							Date/Initials	Date / Initials	YES	NO
AS-4 If an active maternity roost is detected, a bat management plan will be prepared. The bat management plan will be submitted to CDFW prior to implementation and will include appropriate avoidance and minimization efforts such as: **Daytime Work Hours.** All work conducted under the I-10 bridges over Wilson Creek will take place during the day. If this is not feasible, lighting and noise will be directed away from night roosting and foraging areas. **Temporary Exclusion.** The need for temporary exclusion devices will be determined by a qualified and permitted bat biologist. This biologist will also supervise installation of all temporary exclusion devices. Prior to the initiation of construction activities, to avoid indirect disturbance of bats and birds while roosting in areas that would be adjacent to construction activities, any portion of the structure to have potential bat- or bird-roosting habitat will have temporary bat and bird eviction and exclusion devices installed. Eviction and subsequent exclusion will be conducted during the fall (September or October) to avoid trapping flightless young bats inside during the summer months or hibernating/overwintering individuals during the winter. Such exclusion efforts are dependent on weather conditions, take a minimum of 2 weeks to implement, and must be continued to keep the structures free of bats and birds until the completion of construction. All eviction and/or exclusion techniques will be coordinated between the qualified bat biologist and CDFW if the structure is occupied by bats. If deemed appropriate, the biologist may recommend installation of temporary bat panels during construction.	2.22-28	IS/EA NES	SBCTA/Caltrans/Qualified Biologist	Prior to Construction						
THREATENED AND ENDANGERED SPECIES										
TE-1 Prior to initiation of construction in areas within 500 feet of suitable coastal CAGN habitat, 3 separate days of preconstruction surveys will be conducted within suitable habitat, where accessible, within 7 days of construction. Should CAGN be identified within these areas, Project activities will not be allowed within 500 feet of CAGN observations, and additional noise mitigation measures will be implemented, as needed, to maintain noise levels of less than 60 dBA L_{eq} or baseline, whichever is greater, at the observation location. Section 7 consultation will be initiated with the USFWS prior to conducting Project activities within 500 feet of the CAGN observation.	2.23-13	IS/EA NES	SBCTA/Caltrans	Prior to Construction						

Date of ECR: June 2020

Project Phase:
☒ **PA/ED (*DED/FED*)**
☐ **PS&E Submittal_____ %**
☐ **Construction**

ENVIRONMENTAL COMMITMENTS RECORD
I-10 EB TCL Improvement Project

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							Date/Initials	Date / Initials	YES	NO
TE-2 Prior to initiation of construction in areas within 500 feet of suitable SWFL or LBVI foraging habitat, 3 separate days of preconstruction surveys will be conducted within suitable habitat, where accessible, within 7 days of construction. Should SWFL or LBVI be identified within these areas, Project activities will not be allowed within 500 feet of SWFL or LBVI observations, and additional noise mitigation measures will be implemented, as needed, to maintain noise levels of less than 60 dBA L_{eq} or baseline, whichever is greater, at the observation location. Section 7 consultation will be initiated with USFWS prior to conducting Project activities within 500 feet of the SWFL or LBVI observations should work within 500 feet be required during the breeding season.	2.23-13	IS/EA NES	SBCTA/Caltrans	Prior to Construction						

Appendix E. List of Acronyms

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Acronyms and Abbreviations

A		
AB	Assembly Bill	
ACHP	Advisory Council on Historic Preservation	
ACM	asbestos-containing material	
ACS	American Community Survey	
ADA	Americans with Disabilities Act	
ADL	aerially deposited lead	
ADT	average daily traffic	
AGR	Agricultural Supply	
APE	Area of Potential Effects	
APN	assessor's parcel number	
AQMP	Air Quality Management Plan	
ASR	Archaeological Survey Report	
AST	aboveground storage tank	
ASTM	ASTM International, Inc.	
B		
bgs	below ground surface	
BMP	best management practice	
BP	Business Park	
BSA	biological study area	
BUOW	burrowing owl	
C		
CAAQS	California Ambient Air Quality Standards	
CAFÉ	Corporate Average Fuel Economy	
CAGN	coastal California gnatcatcher	
CAL FIRE	California Department of Forestry and Fire Protection	
Cal-IPC	California Invasive Plant Council	
Cal-OSHA	California Division of Occupational Safety and Health Administration	
Caltrans	California Department of Transportation	
CARB	California Air Resources Board	
CC	community commercial	
CCAA	California Clean Air Act	
CCR	California Code of Regulations	
CDFW	California Department of Fish and Wildlife	

CEC	California Energy Commission	
CEQ	Council on Environmental Quality	
CEQA	California Environmental Quality Act	
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	
CERFA	Community Environmental Response Facilitation Act	
CESA	California Endangered Species Act	
CFR	Code of Federal Regulations	
CFP	California fully protected	
CG	General Commercial	
CH4	methane	
CHP	California Highway Patrol	
CHRIS	California Historical Resources Information System	
CIP	cast-in-place	
CN	Neighborhood Commercial	
CNDDB	California Natural Diversity Database	
CNPS	California Native Plant Society	
CO	carbon monoxide	
CO_2	carbon dioxide	
CO_2e	carbon dioxide equivalent	
COC	community of comparison	
CON-RIP	Construction Regional Improvement Program	
CPUC	California Public Utilities Commission	
CR	Regional Commercial	
CREC	controlled recognized environmental condition	
CRHR	California Register of Historical Resources	
CRPR	California Rare Plant Rank	
CS	Service Commercial	
CTC	California Transportation Commission	
CTP	California Transportation Plan	
CWA	Clean Water Act	
D		
dB	decibel	
dBA	A-weighted decibel	
DC	decomposed granite	
DD	Deputy Directive	
DFF	Drainage Facilities Fee	

DG	decomposed granite	
DHHS	Department of Health and Human Services	
DNC	Downtown Neighborhood Commercial	
DOC	Department of Conservation	
DOGGR	Division of Oil, Gas, and Geothermal Resources	
DPGR	Draft Preliminary Geotechnical Report	
DPM	diesel particulate matter	
DPPIA	design pollution prevention infiltration areas	
DSA	disturbed soil area	
DTSC	Department of Toxic Substances Control	
DVC	Downtown Village Commercial	
E		
EA	Environmental Assessment	
EB	eastbound	
EIC	Eastern Information Center	
EIR	environmental impact report	
EIS	environmental impact statement	
EJ	environmental justice	
EO	Executive Order	
EOS	edge of shoulder	
EPA	Environmental Protection Agency	
ESA	environmentally sensitive area	
ETW	edge of travel way	
F		
°F	degrees Fahrenheit	
FCAA	Federal Clean Air Act	
FE	Federally Endangered	
FEMA	Federal Emergency Management Agency	
FESA	Federal Endangered Species Act	
FHWA	Federal Highway Administration	
FID	Fault ID	
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	
FIRM	Flood Insurance Rate Map	
FR	Federal Register	
FTA	Federal Transit Administration	
FTIP	Federal Transportation Improvement Program	

FW	Floodway	
G		
GDP	gross domestic product	
GHG	greenhouse gas	
GWP	global warming potential	
GWR	groundwater recharge	
H		
H&SC	Health and Safety Code	
H2S	hydrogen sulfide	
HCM	Highway Capacity Manual	
HDM	Highway Design Manual	
HFC	hydrofluorocarbons	
HOV	high-occupancy vehicle	
HPSR	Historic Property Survey Report	
HREC	historical recognized environmental condition	
HSG	Hydrologic Soil Groups	
I		
I–10	Interstate 10	
IC	Community Industrial	
ID	identification	
IN	Institutional	
IND	Industrial Service Supply	
IPCC	Intergovernmental Panel on Climate Change	
IS	Initial Study	
ISA	Initial Site Assessment	
J		
JPCP	jointed plain concrete pavement	
JD	jurisdictional delineation	
JSA	jurisdictional study area	
L		
LBP	lead-based paint	
LBVI	least Bell's vireo	
LCFS	Low Carbon Fuel Standard	
LED	light-emitting diode	
LEDPA	least environmentally damaging practicable alternative	

L_{eq}	equivalent noise level	
$L_{eq}(h)$	hourly equivalent noise level	
LI	Light Industrial	
L_{max}	maximum noise level	
LOS	level of service	
LRA	local responsibility areas	
LUST	leaking underground storage tank	
M		
MAP-21	Moving Ahead for Progress in the 21st Century Act	
MCTT	multi-chamber treatment train	
MF	Multi-Family Residential	
MFL	mixed flow lane	
mg/L	milligram per liter	
MLD	most likely descendant	
$MMTCO_2e$	million metric tons of carbon dioxide equivalent	
MND	Mitigated Negative Declaration	
MPO	Metropolitan Planning Organization	
MRZ	Mineral Resource Zone	
MS4	Municipal Separate Storm Sewer Systems	
MSAT	mobile source air toxic	
MSHCP	Multiple Species Habitat Conservation Plan	
MSL	mean sea level	
MT	metric tons	
MUN	Municipal and Domestic Supply	
N		
N_2O	nitrous oxide	
NAAQS	National Ambient Air Quality Standards	
NAC	noise abatement criteria	
NADR	Noise Abatement Decision Report	
NAHC	Native American Heritage Commission	
NRCS	Natural Resources Conservation Service	
NEPA	National Environmental Policy Act	
NES(MI)	Natural Environment Study (Minimal Impacts)	
NESHAP	National Emission Standards for Hazardous Air Pollutants	
NHPA	National Historic Preservation Act	
NHTSA	National Highway Traffic Safety Administration	

No.	Number	
NO_2	nitrogen dioxide	
NO_x	nitrogen oxide	
NOAA	National Oceanic and Atmospheric Administration	
NOI	Notice of Intent	
NPDES	National Pollutant Discharge Elimination System	
NRCS	Natural Resources Conservation Service	
NRHP	National Register of Historic Places	
NSR	Noise Study Report	
O		
O3	ozone	
OHP	Office of Historic Preservation	
OHWM	ordinary high water mark	
OS	Open Space	
OSHA	Occupational Safety and Health Act	
OPR	Office of Planning and Research	
P		
PA	Programmatic Agreement	
PA/ED	Project Approval/Environmental Document	
Pb	lead	
PCB	polychlorinated biphenyl	
PCE	tetrachloroethylene	
PD	planned development	
PDS	Project Development Support	
PDPM	Project Development Procedures Manual	
PDT	Project Development Team	
PEAR	Preliminary Environmental Analysis Report	
pH	potential of hydrogen	
PM	postmile	
PM_{10}	particles of 10 micrometers or smaller	
$PM_{2.5}$	particles of 2.5 micrometers or smaller	
PMP	Pavement Management Program	
POAQC	Project of Air Quality Concern	
POU	publicly owned utilities	
ppb	parts per billion	
ppm	parts per million	

PPV	peak particle velocity	
PROC	Industrial Process Supply	
Project	Interstate 10 Truck Climbing Lane Improvement Project	
PRC	Public Resources Code	
PS&E	plans, specifications, and estimates	
PSR	Project Study Report	
Q		
QP	Quasi Public	
R		
RARE	Rare, Threatened, or Endangered Species	
RC	Regional Commercial	
RCP	regional comprehensive plan	
RCRA	Resource Conservation and Recovery Act	
RCTC	Riverside County Transportation Commission	
RE	Residential Estate	
REC	recognized environmental condition	
REC1	Water Contact Recreation	
REC2	Non-contact Water Recreation	
RH	Residential High	
RL	Rural Residential	
RM	Multiple Residential	
RLM	Residential Low Medium	
ROG	reactive organic gas	
ROW	right-of-way	
RPS	Renewables Portfolio Standard	
RR	Residential Rural	
RS	Residential Single-Family	
RTP	Regional Transportation Plan	
RWQCB	Regional Water Quality Control Board	
S		
SAN	Streambed Alteration Notification	
SANBAG	San Bernardino Associated Governments	
SB	southbound	
SBCFD	San Bernardino County Fire Department	
SBCTA	San Bernardino County Transportation Authority	
SBTAM	San Bernardino Traffic Analysis Model	

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	
SCS	Sustainable Communities Strategy	
SDC	Seismic Design Criteria	
SE	State Endangered	
SER	Standard Environmental Reference	
SF_6	sulfur hexafluoride	
SHPO	State Historic Preservation Officer	
SIP	State Implementation Plan	
SLM	sound level meter	
SLR	sea-level rise	
SO_2	sulfur dioxide	
SO_x	sulfur oxide	
SP	Special Provision	
SPGR	Structure Preliminary Geotechnical Report	
SSC	species of special concern	
SSP	Standard Special Provisions	
STIP	State Transportation Improvement Program	
SWFL	southwestern willow flycatcher	
SWIS	Solid Waste Information System	
SWMP	Storm Water Management Plan	
SWPPP	Stormwater Pollution Prevention Plan	
SWRCB	State Water Resources Control Board	
T		
TAC	toxic air contaminant	
TASAS	Traffic Accident Surveillance and Analysis System	
TCE	temporary construction easement	
TCL	truck climbing lane	
TDM	transportation demand management	
TIP	Transportation Improvement Program	
TMDL	total maximum daily loads	
TMP	transportation management plan	
TNM	traffic noise model	

TOAR	Traffic Operational Analysis Report	
TSCA	Toxic Substances Control Act	
TSM	transportation system management	
TSS	total suspended solid	
TWW	treated wood waste	
U		
U.S.	United States	
USA	Underground Service Alert	
USACE	United States Army Corps of Engineers	
USC	United States Code	
USDA	United States Department of Agriculture	
USDOT	United States Department of Transportation	
USFWS	United States Fish and Wildlife Service	
USGCRP	United States Global Change Research Program	
USGS	United States Geological Survey	
UST	underground storage tank	
V		
VAU	visual assessment unit	
VdB	velocity in decibels	
VFHSZ	very high fire hazard severity zone	
VHFZ	very high fire severity zones	
VHD	vehicle-hours of delay	
VIA	Visual Impact Assessment	
VMT	vehicle miles traveled	
VOC	volatile organic compound	
VRP	visibility reducing particle	
W		
WARM	Warm Freshwater Habitat	
WB	westbound	
WDR	waste discharge requirements	
WEAP	Worker's Environmental Awareness Program	
WILD	Wildlife Habitat	
WPCP	Water Pollution Control Program	
WQAR	Water Quality Assessment Report	
$\mu g/m^3$	micrograms per cubic meter	

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Appendix F. Required Consultation/Consultation Documentation

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F.1 Assembly Bill 52 and Section 106 Consultation

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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Serious drought.
Help save water!

October 9, 2017

Lee Clauss
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Interstate-10 Eastbound
Truck Climbing Lane
Improvement Project

EA 1F7600

Dear Ms. Clauss,

Subject: Initial Native American Consultation for the I-10 Eastbound Truck Climbing Lane Improvement Project

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate-10 (I-10) from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The I-10 Eastbound TCL Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps: Yucaipa, California Quad (T2S, R2W, Sections 4, 5, 9, 10, 11, 14, and unsectioned areas) and El Casco, California Quad (T2S, R2W, Section 14).

A total of two alternatives are being evaluated as part of the proposed Project. These two alternatives include a No Build Alternative and a Build Alternative. The purpose of the proposed Project is to improve operational characteristics by separating trucks and other slow-moving vehicles on a portion of I-10 that includes steep uphill grades from faster moving passenger vehicles.

The Build Alternative proposes improvements along I-10 from Post Mile (PM) 36.4 to R39.2 in the City of Yucaipa in San Bernardino County and from PM R0.0 to R0.2 in the City of Calimesa in Riverside County. The Build Alternative would add a TCL along EB I-10 in the City of Yucaipa from the 16th Street Overcrossing Bridge to 0.2 mile east of the County Line Road Undercrossing Bridge by widening the median. Other improvements under the Build Alternative would also include the installation of new concrete barriers, a new interior EB mixed flow lane, median paving and widening, re-striping, signage changes, drainage improvements, and guard rail upgrades.

All project work, with the exception of select potential staging areas, would occur within the existing Caltrans and City right-of-way (ROW). No ROW acquisitions are anticipated for the related permanent roadway improvements. In addition, no utility relocation or ramp modifications are anticipated. Staging areas are proposed in areas south of I-10 at the 16th Street off-ramp and in

the area of the Wildwood Safety Rest Area and Caltrans Maintenance/Material Storage Yard.

Please consider this letter and preliminary project information as the initiation of Section 106 consultation pursuant to the National Historic Preservation Act and formal notification of a proposed project as required under the California Environmental Quality Act, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e. AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already.

Caltrans requested that a Sacred Lands File (SLF) Search be performed by the Native American Heritage Commission (NAHC). The results of the SLF search were negative although the NAHC noted that the area is sensitive for cultural resources.

Additional studies for the project shall include cultural resources investigations and consultation with interested parties. On behalf of FHWA and SBCTA, Caltrans is interested in receiving input from your community regarding any concerns related to the proposed project. If you know of any cultural resources that may be of religious or cultural significance to your community, or if you would like more information, please contact me at (909) 383-7505, or the above address, or my email at gary_jones@dot.ca.gov. In return correspondence, please refer to this project by the EA number, EA 1F7600.

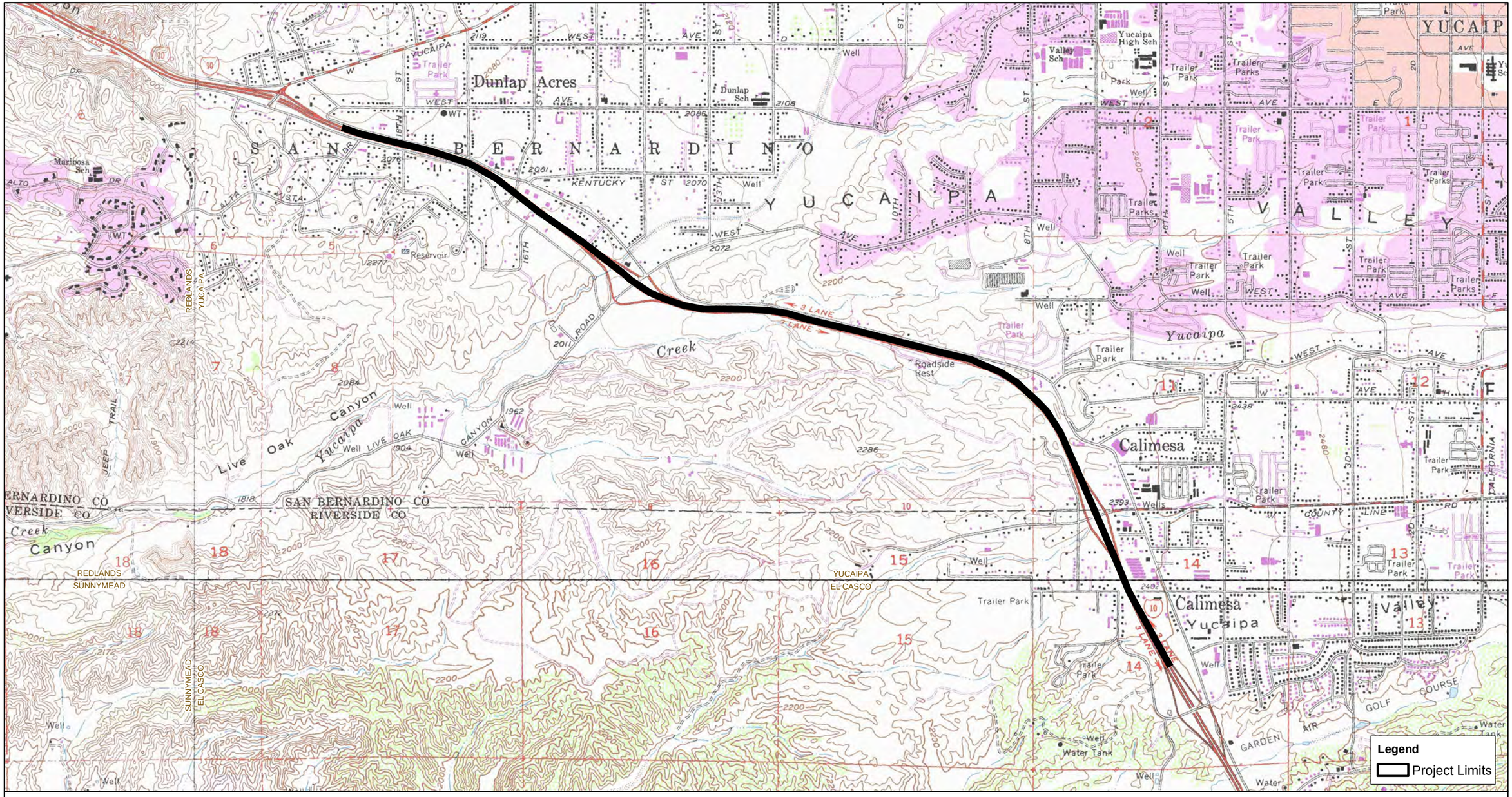
Your time and involvement in this process is appreciated.

Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure



SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

Township 2 South/Range 2 West, Sections 11 and 14
San Bernardino Landgrant
Yucaipa and El Casco, CA 7.5' USGS Quadrangle

Map of the I-10 Eastbound Truck Lane Improvement Project.

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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Serious drought.
Help save water!

October 9, 2017

Joseph Ontiveros
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Interstate-10 Eastbound
Truck Climbing Lane
Improvement Project

EA 1F7600

Dear Mr. Ontiveros,

Subject: Initial Native American Consultation for the I-10 Eastbound Truck Climbing Lane Improvement Project

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate-10 (I-10) from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The I-10 Eastbound TCL Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps: Yucaipa, California Quad (T2S, R2W, Sections 4, 5, 9, 10, 11, 14, and unsectioned areas) and El Casco, California Quad (T2S, R2W, Section 14).

A total of two alternatives are being evaluated as part of the proposed Project. These two alternatives include a No Build Alternative and a Build Alternative. The purpose of the proposed Project is to improve operational characteristics by separating trucks and other slow-moving vehicles on a portion of I-10 that includes steep uphill grades from faster moving passenger vehicles.

The Build Alternative proposes improvements along I-10 from Post Mile (PM) 36.4 to R39.2 in the City of Yucaipa in San Bernardino County and from PM R0.0 to R0.2 in the City of Calimesa in Riverside County. The Build Alternative would add a TCL along EB I-10 in the City of Yucaipa from the 16th Street Overcrossing Bridge to 0.2 mile east of the County Line Road Undercrossing Bridge by widening the median. Other improvements under the Build Alternative would also include the installation of new concrete barriers, a new interior EB mixed flow lane, median paving and widening, re-striping, signage changes, drainage improvements, and guard rail upgrades.

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Caltrans requested that a Sacred Lands File (SLF) Search be performed by the Native American Heritage Commission (NAHC). The results of the SLF search were negative although the NAHC noted that the area is sensitive for cultural resources.

Additional studies for the project shall include cultural resources investigations and consultation with interested parties. On behalf of FHWA and SBCTA, Caltrans is interested in receiving input from your community regarding any concerns related to the proposed project. If you know of any cultural resources that may be of religious or cultural significance to your community, or if you would like more information, please contact me at (909) 383-7505, or the above address, or my email at gary_jones@dot.ca.gov. In return correspondence, please refer to this project by the EA number, EA 1F7600.

Your time and involvement in this process is appreciated.

Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

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DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
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PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Serious drought.
Help save water!

October 9, 2017

Goldie Walker
Serrano Nation of Mission Indians
P.O. Box 343
Patton, CA 92369

Interstate-10 Eastbound
Truck Climbing Lane
Improvement Project

EA 1F7600

Dear Ms. Walker,

Subject: Initial Native American Consultation for the I-10 Eastbound Truck Climbing Lane Improvement Project

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate-10 (I-10) from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The I-10 Eastbound TCL Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps: Yucaipa, California Quad (T2S, R2W, Sections 4, 5, 9, 10, 11, 14, and unsectioned areas) and El Casco, California Quad (T2S, R2W, Section 14).

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the area of the Wildwood Safety Rest Area and Caltrans Maintenance/Material Storage Yard.

Please consider this letter and preliminary project information as the initiation of Section 106 consultation pursuant to the National Historic Preservation Act and formal notification of a proposed project as required under the California Environmental Quality Act, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e. AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already.

Caltrans requested that a Sacred Lands File (SLF) Search be performed by the Native American Heritage Commission (NAHC). The results of the SLF search were negative although the NAHC noted that the area is sensitive for cultural resources.

Additional studies for the project shall include cultural resources investigations and consultation with interested parties. On behalf of FHWA and SBCTA, Caltrans is interested in receiving input from your community regarding any concerns related to the proposed project. If you know of any cultural resources that may be of religious or cultural significance to your community, or if you would like more information, please contact me at (909) 383-7505, or the above address, or my email at gary_jones@dot.ca.gov. In return correspondence, please refer to this project by the EA number, EA 1F7600.

Your time and involvement in this process is appreciated.

Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Serious drought.
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October 9, 2017

Robert Dorame
Gabrielino-Tongva Tribe
P.O. Box 490
Bellflower, CA 90707

Interstate-10 Eastbound
Truck Climbing Lane
Improvement Project

EA 1F7600

Dear Mr. Dorame,

Subject: Initial Native American Consultation for the I-10 Eastbound Truck Climbing Lane Improvement Project

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate-10 (I-10) from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The I-10 Eastbound TCL Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps: Yucaipa, California Quad (T2S, R2W, Sections 4, 5, 9, 10, 11, 14, and unsectioned areas) and El Casco, California Quad (T2S, R2W, Section 14).

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Additional studies for the project shall include cultural resources investigations and consultation with interested parties. On behalf of FHWA and SBCTA, Caltrans is interested in receiving input from your community regarding any concerns related to the proposed project. If you know of any cultural resources that may be of religious or cultural significance to your community, or if you would like more information, please contact me at (909) 383-7505, or the above address, or my email at gary_jones@dot.ca.gov. In return correspondence, please refer to this project by the EA number, EA 1F7600.

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Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

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TTY (909) 383-6300

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Help save water!

October 9, 2017

Andrew Salas
Gabrielino Band of Mission Indians
P.O. Box 86908
Covina, CA 91723

Interstate-10 Eastbound
Truck Climbing Lane
Improvement Project

EA 1F7600

Dear Mr. Salas,

Subject: Initial Native American Consultation for the I-10 Eastbound Truck Climbing Lane Improvement Project

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate-10 (I-10) from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The I-10 Eastbound TCL Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps: Yucaipa, California Quad (T2S, R2W, Sections 4, 5, 9, 10, 11, 14, and unsectioned areas) and El Casco, California Quad (T2S, R2W, Section 14).

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Your time and involvement in this process is appreciated.

Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

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October 9, 2017

Anthony Morales
Gabrielino-Tongva Tribe
P.O. Box 693
San Gabriel, CA 91778

Interstate-10 Eastbound
Truck Climbing Lane
Improvement Project

EA 1F7600

Dear Mr. Morales,

Subject: Initial Native American Consultation for the I-10 Eastbound Truck Climbing Lane Improvement Project

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate-10 (I-10) from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The I-10 Eastbound TCL Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps: Yucaipa, California Quad (T2S, R2W, Sections 4, 5, 9, 10, 11, 14, and unsectioned areas) and El Casco, California Quad (T2S, R2W, Section 14).

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Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

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DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
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October 9, 2017

Sandonne Goad
Gabrielino-Tongva Tribe
P.O. Box 86908
Los Angeles, CA 90086

Interstate-10 Eastbound
Truck Climbing Lane
Improvement Project

EA 1F7600

Dear Ms. Goad,

Subject: Initial Native American Consultation for the I-10 Eastbound Truck Climbing Lane Improvement Project

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate-10 (I-10) from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line. The I-10 Eastbound TCL Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps: Yucaipa, California Quad (T2S, R2W, Sections 4, 5, 9, 10, 11, 14, and unsectioned areas) and El Casco, California Quad (T2S, R2W, Section 14).

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Your time and involvement in this process is appreciated.

Respectfully,

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

F.2 Assembly Bill 52 and Section 106 Responses

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LIST OF NATIVE AMERICAN CONTACTS AND RECORD OF RESPONSES

Name	Date	Responses
Andrew Salas Chairperson Gabrieleno Band of Mission Indians	October 9, 2017	Initial letter sent via USPS.
	March 2, 2018	E-mailed follow-up effort for correspondence.
	April 3, 2018	E-mailed follow-up effort for correspondence.
	May 7, 2018	E-mailed follow-up effort for correspondence.
	June 6, 2018	E-mailed follow-up effort for correspondence. No response received to date.
Anthony Morales Chairperson Gabrielino-Tongva Tribe	October 9, 2017	Initial letter sent via USPS.
	March 2, 2018	E-mailed follow-up effort for correspondence.
	April 3, 2018	E-mailed follow-up effort for correspondence.
	May 7, 2018	E-mailed follow-up effort for correspondence.
	June 6, 2018	E-mailed follow-up effort for correspondence. No response received to date.
Sandonne Goad Chairperson Gabrielino-Tongva Tribe	October 9, 2017	Initial letter sent via USPS.
	March 2, 2018	E-mailed follow-up effort for correspondence.
	April 3, 2018	E-mailed follow-up effort for correspondence.
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Name	Date	Responses
Robert Dorame Chairperson Gabrielino-Tongva Tribe	October 9, 2017	Initial letter sent via USPS.
	March 2, 2018	E-mailed follow-up effort for correspondence.
	April 3, 2018	E-mailed follow-up effort for correspondence.
	May 7, 2018	E-mailed follow-up effort for correspondence.
	June 6, 2018	E-mailed follow-up effort for correspondence. No response received to date.
Lee Clauss Director of Cultural Resources San Manuel Band of Mission Indians (SMBMI)	October 9, 2017	Initial letter sent via USPS.
	November 14, 2017	The SMBMI requests to consult with Caltrans pursuant to Section 106 and CEQA. The Project exists within Serrano ancestral territory and, as such, it is of interest to the Tribe. The Tribe requests additional Project plans and a more detailed Project description to assess the Tribe's level of concern regarding the Project.
Goldie Walker Chairperson Serrano Nation of Mission Indians	October 9, 2017	Initial letter sent via USPS.
	March 5, 2018	Followed up with a phone call and left detailed voicemail message for Ms. Walker regarding the Project.
	April 11, 2018	Spoke to Ms. Walker; however, she was ill and hospitalized and in no condition to discuss the Project. She noted that her son, Mark Cochran, may be able to call me back. Ms. Walker passed away in April 2018. Future Project correspondence would go to Ms. Walker's son, Mr. Mark Cochran.

Name	Date	Responses
Joseph Ontiveros Cultural Resource Department Soboba Band of Luiseño Indians	October 9, 2017 November 9, 2017	Initial letter sent via USPS. Response received via email. The Soboba Band of Luiseño Indians requests to consult with Caltrans pursuant to Section 106. The Project is within the Tribe's Traditional Use Area, is within close proximity to known sites, and is considered culturally sensitive by the Tribe. The Tribe requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department be present during any Project related ground disturbing proceedings.

November 9, 2017

Attn: Gary Jones, Environmental Planner, Archaeologist, Native American Coordinator
Caltrans, District 8 – San Bernardino
Environmental Planning (MS 825)
464 W. Fourth Street, 6th Floor
San Bernardino, CA 92401-1400

RE: Section 106 Consultation; I-10 Eastbound Truck Climbing Lane Improvement Project – EA 1F7600

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes, and is considered to be culturally sensitive by the people of Soboba.

Soboba Band of Luiseño Indians is requesting the following:

1. G**overnment to Government** consultation in accordance to Section 106. Including the transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.

2. Soboba Band of Luiseño Indians continue to be a consulting tribal entity for this project.

3. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department to be present during any ground disturbing proceedings. Including surveys and archaeological testing.

4. Request that proper procedures be taken and requests of the tribe be honored (Please see the attachment)

The Soboba Band of Luiseño Indians is requesting a face-to-face meeting between the Department of Transportation (Caltrans) and the Soboba Cultural Resource Department. Please contact me at your earliest convenience either by email or phone in order to make arrangements.

Sincerely,

Joseph Ontiveros
Director of Cultural Resources
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

Cultural Items (Artifacts). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer should agree to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. When appropriate and agreed upon in advance, the Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

The Developer should waive any and all claims to ownership of Native American ceremonial and cultural artifacts that may be found on the Project site. Upon completion of authorized and mandatory archeological analysis, the Developer should return said artifacts to the Soboba Band within a reasonable time period agreed to by the Parties and not to exceed (30) days from the initial recovery of the items.

Treatment and Disposition of Remains

A. The Soboba Band shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods shall be treated and disposed of with appropriate dignity.

B. The Soboba Band, as MLD, shall complete its inspection within twenty-four (24) hours of receiving notification from either the Developer or the NAHC, as required by California Public Resources Code § 5097.98 (a). The Parties agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes.

C. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The Soboba Band, as the MLD in consultation with the Developer, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains.

D. All parties are aware that the Soboba Band may wish to rebury the human remains and associated ceremonial and cultural items (artifacts) on or near, the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The Developer should accommodate on-site reburial in a location mutually agreed upon by the Parties.

E. The term "human remains" encompasses more than human bones because the Soboba Band's traditions periodically necessitated the ceremonial burning of human remains. Grave goods are those artifacts associated with any human remains. These items, and other funerary remnants and their ashes are to be treated in the same manner as human bone fragments or bones that remain intact.

Coordination with County Coroner's Office. The Lead Agencies and the Developer should immediately contact both the Coroner and the Soboba Band in the event that any human remains are discovered during implementation of the Project. 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, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c).

Non-Disclosure of Location Reburials. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer agrees to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

SOBOBA BAND OF LUISEÑO INDIANS

Confidentiality: The entirety of the contents of this letter shall remain confidential between Soboba and the California Department of Transportation (Caltrans). No part of the contents of this letter may be shared, copied, or utilized in any way with any other individual, entity, municipality, or tribe, whatsoever, without the expressed written permission of the Soboba Band of Luiseño Indians.

Everson, Dicken@DOT

From: Jones, Gary A@DOT
Sent: Tuesday, November 14, 2017 1:29 PM
To: Everson, Dicken@DOT
Cc: Walters, Andrew M@DOT
Subject: FW: I-10 Eastbound Truck Climbing Lane Improvement Project (EA 1F7600)

FYI

From: Lee Clauss [mailto:LClauss@sanmanuel-nsn.gov]
Sent: Tuesday, November 14, 2017 1:19 PM
To: Jones, Gary A@DOT <gary.jones@dot.ca.gov>
Subject: I-10 Eastbound Truck Climbing Lane Improvement Project (EA 1F7600)

Good morning, Gary,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the I-10 Eastbound Truck Climbing Lane Improvement Project (EA 1F7600) located near the boundary between San Bernardino and Riverside Counties. SMBMI appreciates the opportunity to review the project documentation, which was received by our Cultural Resources Management Department on October 13, 2017. By this e-mail, SMBMI requests to consult with Caltrans-District 8 pursuant to both Section 106 of the NHPA and CEQA (as amended, 2014).

The proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe. Furthermore, this particular corridor and its adjacent landscape is culturally significant and sensitive to the Tribe, due to their pre-contact and historic use of Live Oak Canyon (including the Preserve which has been recently renamed *Herngt 'Aki'* to reflect the Serrano name for this place), the transportation corridor in this area that is now the I-10, the proximity of the project to the village of *Yukaipa't*, and other landscapes of cultural importance.

In order to more fully assess our level of concern and possible cultural resources-based recommendations/requests; however, the Cultural Resources Management (CRM) Department requires some additional insight about the project.

Specifically, while the correspondence provided notes that there will be "improvements to operational characteristics," there is no description as to what that entails (only that is does not include work outside of existing ROW, utility relocations, or ramp modifications). In order to assess what San Manuel's level of concern (and the nature of their concerns) might be, we need far more detail about what is planned as part of this undertaking.

I thank you, in advance, for the additional information about this project. Once a response is received, we will conclude our review of the project and supply you with our final comments.

Best,

Lee

Lee Clauss
DIRECTOR, CULTURAL RESOURCES MANAGEMENT
O: (909) 864-8933 x3248
Internal: 50-3248
M: (909) 633-5851
26569 Community Center Drive, Highland California 92346
SAN MANUEL
BAND OF MISSION INDIANS

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You

Joan George

From: **Joan George** <jgeorge@appliedearthworks.com>
Date: Fri, Mar 2, 2018 at 7:19 AM
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
To: Gabrieleno Band of Mission Indians <admin@gabrielenoindians.org>

Good morning,

Just a quick follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. To summarize, the San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) proposes to extend the eastbound truck climbing lane on Interstate 10 from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino and Riverside County line. A literature and records search was conducted and 81 cultural resource studies have been conducted previously within a one-mile radius of the Project area. Three of these studies covered the approximately 60 percent of the Project area. The records search also indicated that 43 cultural resources have been identified within a one-mile radius of the Project area. None of these resources are documented within the Project area. The Sacred Lands File search conducted by the NAHC was completed with negative results. No prehistoric or historic archaeological sites or isolated finds were identified during the survey. Should you have any comments or concerns regarding this Project, please call or email me.

Thank you,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
3550 E. Florida Ave., Suite H
Hemet, CA. 92544-4937
951.766.2000 x-24 office
www.appliedearthworks.com

Joan George

From: **Joan George** <jgeorge@appliedearthworks.com>
Date: Fri, Mar 2, 2018 at 7:20 AM
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
To: GTTribalcouncil@aol.com

Good morning,

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Joan George

From: **Joan George** <jgeorge@appliedearthworks.com>
Date: Fri, Mar 2, 2018 at 7:22 AM
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
To: sgoad@gabrielino-tongva.com

Good morning,

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Joan George

From: **Joan George** <jgeorge@appliedearthworks.com>
Date: Fri, Mar 2, 2018 at 7:25 AM
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
To: gtongva@gmail.com

Good morning,

Just a quick follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. To summarize, the San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) proposes to extend the eastbound truck climbing lane on Interstate 10 from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino and Riverside County line. A literature and records search was conducted and 81 cultural resource studies have been conducted previously within a one-mile radius of the Project area. Three of these studies covered the approximately 60 percent of the Project area. The records search also indicated that 43 cultural resources have been identified within a one-mile radius of the Project area. None of these resources are documented within the Project area. The Sacred Lands File search conducted by the NAHC was completed with negative results. No prehistoric or historic archaeological sites or isolated finds were identified during the survey. Should you have any comments or concerns regarding this Project, please call or email me.

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Applied EARTHWORKS Inc.

3550 E. Florida Ave., Suite H
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O: (951) 766-2000 | F: (951) 766-0020

PHONE LOG

Call to:
Goldie Walker, Chairperson, Serrano Nation of Mission Indians (909) 528-9027

RE: I-10 Eastbound Truck Climbing Lane Project (EA 1F7600)

Date: March 5, 2018

Left message on Ms. Walker's cell phone providing details regarding the I-10 Eastbound Truck Climbing Lane Project and to call me back to discuss the Project.

Joan George
Applied EarthWorks, Inc.

From: Joan George
To: Gabrieleno Band of Mission Indians
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Tuesday, April 03, 2018 1:03:00 PM
Attachments: Salas_I-10 TCL.pdf

Good afternoon,

I am conducting a second follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. Please email or call me if you have any questions or comments regarding the Project.

Thank you,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Friday, March 02, 2018 7:19 AM
To: Gabrieleno Band of Mission Indians
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

Good morning,

Just a quick follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. To summarize, the San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) proposes to extend the eastbound truck climbing lane on Interstate 10 from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino and Riverside County line. A literature and records search was conducted and 81 cultural resource studies have been conducted previously within a one-mile radius of the Project area. Three of these studies covered the approximately 60 percent of the Project area. The records search also indicated that 43 cultural resources have been identified within a one-mile radius of the Project area. None of these resources are documented within the Project area. The Sacred Lands File search conducted by the NAHC was completed with negative results. No prehistoric or historic archaeological sites or isolated finds were identified during the survey. Should you have any comments or concerns regarding this Project, please call or email me.

Thank you,
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Associate Archaeologist



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www.appliedearthworks.com

From: Joan George
To: "gtongva@gmail.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Tuesday, April 03, 2018 1:04:00 PM
Attachments: Dorame_I-10 TCL.pdf

Good afternoon,

I am conducting a second follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. Please email or call me if you have any questions or comments regarding the Project.

Thank you,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Friday, March 02, 2018 7:26 AM
To: 'gtongva@gmail.com'
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

Good morning,

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Associate Archaeologist



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From: Joan George
To: "sgoad@gabrielino-tongva.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Tuesday, April 03, 2018 1:04:00 PM
Attachments: Goad_I-10 TCL.pdf

Good afternoon,

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Thank you,
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From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Friday, March 02, 2018 7:23 AM
To: 'sgoad@gabrielino-tongva.com'
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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From: Joan George
To: "GTTribalcouncil@aol.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Tuesday, April 03, 2018 1:04:00 PM
Attachments: Morales_I-10 TCL.pdf

Good afternoon,

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Thank you,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Friday, March 02, 2018 7:21 AM
To: 'GTTribalcouncil@aol.com'
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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O: (951) 766-2000 | F: (951) 766-0020

PHONE LOG

Call to:
Goldie Walker, Chairperson, Serrano Nation of Mission Indians (909) 528-9027

RE: I-10 Eastbound Truck Climbing Lane Project (EA 1F7600)

Date: April 11, 2018

Spoke to Ms. Walker on April 11; however, she was ill and hospitalized and in no condition to discuss the Project. She noted that her son may be able to call me back.

Joan George
Applied EarthWorks, Inc.

From: Joan George
To: Gabrieleno Band of Mission Indians
Subject: FW: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Monday, May 07, 2018 9:05:00 AM
Attachments: Salas_I-10 TCL.pdf

Good morning,

I am emailing a final follow-up for the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. Please email or call me if you have any questions or comments regarding the Project.

Best,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Tuesday, April 03, 2018 1:04 PM
To: Gabrieleno Band of Mission Indians
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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www.appliedearthworks.com

From: Joan George
To: "GTTribalcouncil@aol.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Monday, May 07, 2018 9:30:00 AM
Attachments: Morales_I-10 TCL.pdf

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Sent: Tuesday, April 03, 2018 1:04 PM
To: 'GTTribalcouncil@aol.com'
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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Sent: Friday, March 02, 2018 7:21 AM
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From: Joan George
To: "gtongva@gmail.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Monday, May 07, 2018 9:31:00 AM
Attachments: Dorame_I-10 TCL.pdf

Good morning,

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From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Tuesday, April 03, 2018 1:05 PM
To: 'gtongva@gmail.com'
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Monday, May 07, 2018 9:31:00 AM
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www.appliedearthworks.com

From: Joan George
To: Gabrieleno Band of Mission Indians
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Wednesday, June 06, 2018 9:51:00 AM
Attachments: Salas_I-10 TCL.pdf

Good morning,

I am emailing a final follow-up for the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. Please email or call me if you have any questions or comments regarding the Project.

Best,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
951.766.2000 x-23 office

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Sent: Monday, May 07, 2018 9:05 AM
To: Gabrieleno Band of Mission Indians
Subject: FW: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Tuesday, April 03, 2018 1:04 PM
To: Gabrieleno Band of Mission Indians
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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Sent: Friday, March 02, 2018 7:19 AM
To: Gabrieleno Band of Mission Indians
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

Good morning,

Just a quick follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. To summarize, the San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) proposes to extend the eastbound truck climbing lane on Interstate 10 from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino and Riverside County line. A literature and records search was conducted and 81 cultural resource studies have been conducted previously within a one-mile radius of the Project area. Three of these studies covered the approximately 60 percent of the Project area. The records search also indicated that 43 cultural resources have been identified within a one-mile radius of the Project area. None of these resources are documented within the Project area. The Sacred Lands File search conducted by the NAHC was completed with negative results. No prehistoric or historic archaeological sites or isolated finds were identified during the survey. Should you have any comments or concerns regarding this Project, please call or email me.

Thank you,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist



3550 E. Florida Ave., Suite H
Hemet, CA. 92544-4937
951.766.2000 x-24 office
www.appliedearthworks.com

From: Joan George
To: "GTTribalcouncil@aol.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Wednesday, June 06, 2018 9:52:00 AM
Attachments: Morales_I-10 TCL.pdf

Good morning,

I am emailing a final follow-up for the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. Please email or call me if you have any questions or comments regarding the Project.

Best,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Monday, May 07, 2018 9:30 AM
To: 'GTTribalcouncil@aol.com'
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

Good morning,

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Best,
Joan

Joan George | Applied EarthWorks, Inc.
Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Tuesday, April 03, 2018 1:04 PM
To: 'GTTribalcouncil@aol.com'
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

Good afternoon,

I am conducting a second follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. Please email or call me if you have any questions or comments regarding the Project.

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Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Friday, March 02, 2018 7:21 AM
To: 'GTTribalcouncil@aol.com'
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

Good morning,

Just a quick follow-up on the I-10 Truck Climbing Lane Improvement Project in the City of Yucaipa. To summarize, the San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) proposes to extend the eastbound truck climbing lane on Interstate 10 from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of the County Line Road Undercrossing Bridge at the San Bernardino and Riverside County line. A literature and records search was conducted and 81 cultural resource studies have been conducted previously within a one-mile radius of the Project area. Three of these studies covered the approximately 60 percent of the Project area. The records search also indicated that 43 cultural resources have been identified within a one-mile radius of the Project area. None of these resources are documented within the Project area. The Sacred Lands File search conducted by the NAHC was completed with negative results. No prehistoric or historic archaeological sites or isolated finds were identified during the survey. Should you have any comments or concerns regarding this Project, please call or email me.

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Hemet, CA. 92544-4937
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www.appliedearthworks.com

From: Joan George
To: "sgoad@gabrielino-tongva.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Wednesday, June 06, 2018 9:52:00 AM
Attachments: Goad_I-10 TCL.pdf

Good morning,

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951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Monday, May 07, 2018 9:31 AM
To: 'sgoad@gabrielino-tongva.com'
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Tuesday, April 03, 2018 1:05 PM
To: 'sgoad@gabrielino-tongva.com'
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

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From: Joan George
To: "gtongva@gmail.com"
Subject: RE: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa
Date: Wednesday, June 06, 2018 9:52:00 AM
Attachments: Dorame_I-10 TCL.pdf

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Associate Archaeologist
951.766.2000 x-23 office

From: Joan George [mailto:jgeorge@appliedearthworks.com]
Sent: Friday, March 02, 2018 7:26 AM
To: 'gtongva@gmail.com'
Subject: Cultural Resource Investigation for I-10 Truck Climbing Lane Improvement Project in Yucaipa

Good morning,

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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Make Conservation

A California way of life!

March 25, 2019

Lee Clauss
Director, Cultural Resources
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

08-SBd-10-PM 36.4/39.2
EA: 1F760
PN: 08-1500-0050
I-10 Eastbound Truck Climbing Lane Improvement Project

Dear Ms. Clauss,

Ongoing Consultation and Notice of Project Footprint Reduction for Interstate 10 Eastbound Truck Climbing Lane Improvement Project (EA 1F760)

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound truck climbing lane on Interstate 10 from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line.

Caltrans initiated Section 106 and AB52 consultation with the San Manuel Band of Mission Indians on October 9, 2017. At this time, Caltrans is providing notification that the original project footprint has been reduced to avoid any cultural resources which were previously within the original planned work locations. The revised footprint is included as an attachment.

Please direct inquiries or concerns regarding the proposed project to Gary Jones at (909) 383-7505 or by email at gary.jones@dot.ca.gov. In return correspondence, please refer to this project by the EA Number, 1F760. We look forward to your response.

Sincerely,

GARY JONES
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support/Cultural Studies

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Make Conservation
A California way of life!

March 25, 2019

Joseph Ontiveros
Tribal Historic Preservation Officer
Soboba Band of Luiseño Indians
P.O. Box 2881
Bassett, CA 91746

08-SBd-10-PM 36.4/39.2
EA: 1F760
PN: 08-1500-0050
I-10 Eastbound Truck Climbing Lane Improvement Project

Dear Mr. Ontiveros,

Ongoing Consultation and Notice of Project Footprint Reduction for Interstate 10 Eastbound Truck Climbing Lane Improvement Project (EA 1F760)

As assigned by the Federal Highway Administration (FHWA), and in cooperation with the San Bernardino County Transportation Authority (SBCTA), the California Department of Transportation (Caltrans) proposes to extend the eastbound truck climbing lane on Interstate 10 from its current terminus just west of the 16th Street Overcrossing Bridge in the City of Yucaipa to just east of County Line Road Undercrossing Bridge at the San Bernardino County and Riverside County line.

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Please direct inquiries or concerns regarding the proposed project to Gary Jones at (909) 383-7505 or by email at gary.jones@dot.ca.gov. In return correspondence, please refer to this project by the EA Number, 1F760. We look forward to your response.

Sincerely,

GARY JONES
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support/Cultural Studies

Appendix G. Regional Transportation Plan/Federal Transportation Improvement Program

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State Highways
2019 FTIP - Including Amendments 1-11 & 13-15

FTIP ID	20179901	*FTIP Amendment*	San Bernardino County Transportation Authority (SBCTA) 19-00	*Conform Category*	NON-EXEMPT	*Total Project Cost*	$34,596
Lead Agency	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY			*Modeling*	YES		
County	San Bernadino	Primary Program Code	CAY63 - HIGHWAY/ROAD IMP - LANE ADD'S (NO HOV LANES): GM	Air Basin	SCAB	RTP ID	4122003
System	State Hwy						
Project Limits	Route 10 , From 16th St Bridge in Yucaipa to Just east of the County Line Road undercrossing, Milepost Begins at 36.4 Ends at .2 of Length -36.2						
Description	I-10 EB TRUCK CLIMBING LANE: CONTINUE THE EXISTING EASTBOUND TRUCK CLIMBING LANE ON I-10 FROM THE 16TH ST BRIDGE IN THE CITY OF YUCAIPA FOR ABOUT 3 MILES TO JUST EAST OF THE COUNTY LINE ROAD UNDERCROSSING. THE PROJECT INCLUDES A TRANSITION LANE TO ALLOW TRUCKS TO MERGE WITH GENERAL TRAFFIC AND MAY INCLUDE MINOR STRUCTURAL IMPROVEMENTS TO ACCOMMODATE FOR LANE WIDENING (PPNO 3009Q)						

Phase	Fund Source (in $000s)	Prior	18/19	19/20	20/21	21/22	22/23	23/24	Future	Total
PE	SBD CO MEASURE I	$1,706	-	-	-	-	-	-	-	$1,706
PE	STIP ADVANCE CON-RIP	-	$2,890	-	-	-	-	-	-	$2,890
	Total Preliminary Engineering	$1,706	$2,890	-	-	-	-	-	-	$4,596
CON	AGENCY	-	-	$30,000	-	-	-	-	-	$30,000
	Total Construction	-	-	$30,000	-	-	-	-	-	$30,000
	Total Programmed	**$1,706**	**$2,890**	**$30,000**	-	-	-	-	-	**$34,596**

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TABLE 2 Financially-Constrained RTP/SCS Projects – Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost ($1,000's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	4122003-20179901	10				I-10 EB TRUCK CLIMBING LANE: CONTINUE THE EXISTING EASTBOUND TRUCK CLIMBING LANE ON I-10 FROM THE 16TH ST BRIDGE IN THE CITY OF YUCAIPA FOR ABOUT 3 MILES TO JUST EAST OF THE COUNTY LINE ROAD UNDERCROSSING. THE PROJECT INCLUDES A TRANSITION LANE TO ALLOW TRUCKS TO MERGE WITH GENERAL TRAFFIC AND MAY INCLUDE MINOR STRUCTURAL IMPROVEMENTS TO ACCOMMODATE FOR LANE WIDENING (PPNO 3009Q)	2023	$34,596
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	4M01005-20111625	210				SR210 LANE ADDITION - ADD 1 MIXED FLOW LANE IN EACH DIRECTION FROM HIGHLAND AVE. TO SAN BERNARDINO AVE (REDLANDS) INCLUDES AUX. LANES BETWEEN BASE LINE AND 5TH STS AND AN ACCELERATION LANE AT 5TH ST. E/B ON RAMP AND DECELRATION LANE AT HIGHLAND AVE E/B OFF RAMP EXTENDING TO STERLING AVENUE, AND INCLUDES ROAD REHAB. (UNDER 1/4 MILES LENGTH)	2021	$187,050
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	4M04050-201114	60				WIDENING OF CENTRAL AVENUE BRIDGE CROSSING SR-60 TO ACCOMODATE WIDENING OF RAMPS AND THE DESIGNATED FREEWAY LANES.	2020	$24,226
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	4M07003-20131504	10				I-10 @ UNIVERSITY ST INTERCHANGE: INTERSECTION IMPROVEMENTS WITH ON/OFF RAMP WIDENING. (NO CAPACITY ENHANCEMENTS)	2019	$5,100
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	4M07017-201132	60				SR-60 AT ARCHIBALD AVENUE; WIDEN WB AND EB ENTRY RAMPS (ADD 1 LANE), WIDEN WB AND EB EXIT RAMPS (ADD LEFT TURN LANE), ADD ADDITIONAL LEFT TURN LANE FROM ARCHIBALD AVE TO SR-60 ENTRY RAMPS. (NON-CAPACITY ENHANCING ALONG ARCHIBALD).	2021	$14,563
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	REG0701-201186	210				AT SR-210/BASE LINE IC: RECONSTRUCT/WIDEN BASE LINE BETWEEN CHURCH AVE AND BOULDER AVE FROM 4 TO 6 THROUGH LANES AND EXTEND LEFT TURN LANES, WIDEN RAMPS – WB EXIT 1 TO 3 LANES, WB AND EB ENTRANCES 1 TO 3 LANES INCLUDING HOV PREFERENTIAL LANES (EA 1C970)	2021	$31,216
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	SBD59303-SBD59303	999				___SET ASIDES/RESERVATIONS FOR FUTURE SB45 -PLANNING, PROGRAMMING, & MONITORING (PPNO 9811)	2023	$7,560
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120199	10	I-10	I-10	MOUNTAIN VIEW AVE	I-10 @ MOUNTAIN VIEW AVE INTERCHANGE IMPROVEMENTS	2045	$37,800

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Appendix H. U.S. Fish and Wildlife Service Regional Species List

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To:
Consultation Code: 08ECAR00-2019-SLI-0357
Event Code: 08ECAR00-2020-E-02459
Project Name: I-10 EB Truck Climbing Lanes

May 11, 2020

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2019-SLI-0357

Event Code: 08ECAR00-2020-E-02459

Project Name: I-10 EB Truck Climbing Lanes

Project Type: TRANSPORTATION

Project Description: The San Bernardino County Transportation Authority, in cooperation with Caltrans, proposes to extend the EB TCL on I-10 from its current terminus at the existing eastbound off-ramp to the Live Oak Canyon Interchange to just east of the County Line Road existing eastbound off-ramp at the San Bernardino County and Riverside County line. The extension of the existing TCL within the Project limits for an additional 3-miles would improve operations by separating slow moving vehicles from faster moving passenger cars that are climbing the existing grade.
The Project is primarily located at the south edge of San Bernardino County in the City of Yucaipa and at the north edge of Riverside County in the City of Calimesa, California. The Project is bounded by Calimesa Boulevard and Dunlap Boulevard to the north, 17th Street to the west, Calimesa Blvd/County Line Road to the east, and Wildwood Wash and 7th Place to the south.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/34.012816798390695N117.07532548986148W



Counties: Riverside, CA | San Bernardino, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat *Dipodomys merriami parvus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2060	Endangered

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Amphibians

NAME	STATUS
Mountain Yellow-legged Frog *Rana muscosa* Population: Southern California DPS There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8037	Endangered

Fishes

NAME	STATUS
Santa Ana Sucker *Catostomus santaanae* Population: 3 CA river basins There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3785	Threatened

Flowering Plants

NAME	STATUS
Santa Ana River Woolly-star *Eriastrum densifolium ssp. sanctorum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6575	Endangered
Slender-horned Spineflower *Dodecahema leptoceras* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4007	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

List of Technical Studies

This page is intentionally blank.

The technical studies prepared to support the analysis and conclusions contained in this IS/EA are listed below. These studies have been bound separately, and copies are available for public review from July 3, 2020 to August 3, 2020.

This document may be downloaded at the following website: https://www.gosbcta.com/project/i-10-truck-climbing-lane/.

List of Technical Studies

Air Quality Analysis Report. Prepared by HDR Engineering, Inc. (June 2019)

Archeological Survey Report. Prepared by Applied Earthworks, Inc. (May 2019)

Asbestos and Lead-Based Paint Testing Results. Vista Environmental Consulting. (July 2019)

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