

I-15/SR 78 Managed Lanes Connector and Woodland Interchange Project

SAN DIEGO COUNTY, CALIFORNIA
DISTRICT 11–SD–15, 78 (PM R30.6/R32.0 (15) and PM 12.6/R16.7 (78))
2T2400/1112000131

Draft Environmental Impact Report/ Environmental Assessment



**Prepared by the
State of California, Department of Transportation**

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 U.S. Code 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.



May 2025

General Information about This Document

What is in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Draft Environmental Impact Report/Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Diego County. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and under the California Environmental Quality Act (CEQA). This document explains why the project is being proposed, what alternatives have been 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 are available for review at:
 - Caltrans District 11 at 4050 Taylor Street, San Diego, CA 92110
 - San Marcos Branch Library at 2 Civic Center Drive, San Marcos, CA 92069
- Related technical studies will be available upon request.
- The Draft EIR/EA is also available for review at <https://dot.ca.gov/caltrans-near-me/district-11/current-projects/sr78-projects/i15sr78-expresslanes>

How to Participate:

- 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 via postal mail or email to Caltrans by the deadline.
- Send comments via postal mail to: Matthew Voss, 4050 Taylor Street, MS-242, San Diego, CA 92110
- Send comments via email to: matthew.voss@dot.ca.gov
- Submit comments by the deadline: July 3, 2025.

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 Caltrans, Attention: Matthew Voss, Environmental Division MS 242, Caltrans District 11 office at 4050 Taylor Street, San Diego, CA 92110; phone 1-858-289-1276 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

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Construct direct connector ramps with lane management systems to connect the existing I-15 Express Lanes and extend managed lanes on SR 78 in both directions west of I-15.

Draft Environmental Impact Report/Environmental Assessment

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies: San Diego Association of Governments, California
Transportation Commission, and City of San Marcos

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05/14/2025

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Summary

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). Caltrans is the lead agency under NEPA and CEQA. In addition, 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 May 27, 2022, and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a "lower level" document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

S-1 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 (Public Law 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, Caltrans entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA Assignment MOU became effective on October 1, 2012, and was renewed on May 27, 2022, for a term of ten years. In summary, Caltrans 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 Caltrans 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 the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition and specific project exclusions.

S-2 Project Overview

The proposed project is located in Escondido and San Marcos in San Diego County and involves building direct connector ramps with lane management systems on I-15 and SR 78. The project aims to link existing I-15 Express Lanes by extending them west on SR 78 for three miles in both directions; see Figure 1-7. Barham Drive and Woodland Parkway Interchange would be reconstructed, and Class I multiuse paths would be added. The project includes westbound and eastbound managed lanes, additional lanes in specific sections, and improvements to existing infrastructure. The project also

proposes to extend high-occupancy toll lanes, construct a direct connector, and to enhance roadways and bicycle facilities.

S-2.1 LEAD AGENCIES AND NEPA/CEQA DOCUMENTATION

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

S-2.2 PROJECT AREA

The proposed project is located in the northern part of San Diego County, in the southern part of the state of California. It is situated inland, approximately 35 miles north of downtown San Diego, in the cities of Escondido and San Marcos on I-15 (Postmiles [PMs]: R30.6/R32.0) and on SR 78 (PM:11.0/R16.7). Specifically, the project extends from 0.4 miles south of Hale Avenue overcrossing to 0.5 miles north of the I-15/SR 78 Separation, and on SR 78 from 0.2 miles west of the Las Posas Road Undercrossing to 0.2 miles west of the Rock Springs Road overcrossing. North County San Diego (North County) generally encompasses the northern region of San Diego County and includes both coastal communities such as Oceanside and Carlsbad, and inland communities along SR 78 such as Escondido and San Marcos. Future references in this draft EIR/EA to North County specifically apply to the City of Escondido and the City of San Marcos, which are within the project limits. The area is characterized by a mix of urban, suburban, and rural land uses, featuring residential neighborhoods, commercial centers, agricultural lands, open spaces, and sensitive habitats. The region's Mediterranean climate, coastal proximity, and diverse topography contribute to a range of environmental considerations, including biological resources, water quality, and cultural resources. Key transportation corridors such as Interstate 5 and SR 78 serve the area, supporting regional connectivity and growth.

S-2.3 PURPOSE AND NEED

Growth in population, employment, and services along the SR 78 corridor have resulted in the need for transportation improvements to support smart growth, economic prosperity, and mobility choices. The primary purpose of the project is to increase the ability to manage the transportation system and increase the efficient movement of people and goods for North San Diego County (North County) communities served and surrounding I-15 and SR 78, thereby maximizing the project's contribution to the effectiveness of local mobility with the regional transportation system as envisioned in the adopted 2021 Regional Plan and Draft 2025 Regional Plan. The proposed project would provide critical improvements in the regional multi-modal transportation system by accommodating the use of carpools, cyclists, pedestrians, and high-frequency rapid transit (e.g., commuter express, bus rapid transit) in the project corridor and facilitating connections between planned (e.g., SR 78 Managed Lanes) and existing (e.g., I-15 Managed Lanes) multi-modal facilities.

S-2.4 PROPOSED ACTION

This project proposes the following actions:

- Construct direct connector ramps with lane management systems to connect the existing I-15 Express Lanes.
- Extend managed lanes on SR 78 in both eastbound and westbound directions.
- Reconstruct Barham Drive and the Woodland Parkway Interchange by implementing enhanced multi-modal access, with proposed Class I multiuse paths along both roads.
- Construct a westbound lane from the Nordahl Road overcrossing to the Nordahl Road westbound on-ramp, and another westbound lane from west of Mission Road to the Woodland Parkway westbound on-ramp.
- Remove a section of the existing auxiliary lane from the Barham Drive eastbound on-ramp to the Mission Road overhead bridge.
- Overhead equipment such as gantry(s) that span the lane, shoulder and buffer, with space to mount tolling equipment. Variable Toll Message Signs are proposed to display toll rates. Vehicle Detection Stations are proposed to identify the presence of vehicles in the Express Lanes. Closed caption televisions are also proposed to view traffic in the Express Lanes and monitor tolling equipment. A distinct Express Lane separation from general-purpose lanes with either double line striping or flexible channelizers, and appropriate signage would be implemented.
- Soundwalls would be constructed, as feasible, to abate noise impacts.

S-3 Project Impacts

Table S-1: Summary of Major Potential Impacts from Alternatives

Potential Impact	Alternative 1 (Express Lanes)	No-Build Alternative (No Action)
<i>Purpose and Need</i>	Consistent with the adopted 2021 Regional Plan and Draft 2025 Regional Plan.	Inconsistent with the adopted 2021 Regional Plan and Draft 2025 Regional Plan
<i>Consistency with State, Regional, and Local Plans and Programs</i>	Consistent with various goals and policies of the regional and local plans. The proposed project would advance the intent of improving travel safety and reliability for people and goods, accommodating pedestrians and motorists, encouraging alternative modes of transportation, and reducing associated GHG emissions.	Inconsistent with various goals and policies of the regional and local plans. These inconsistencies include improving travel safety and reliability for people and goods; accommodating pedestrians and motorists; encouraging alternative modes of transportation; reducing congestion, and associated GHG emissions; improving safety.
<i>Coastal Zone</i>	Project is not within the coastal zone.	Project is not within the coastal zone.
<i>Wild and Scenic Rivers</i>	No Wild and Scenic Rivers are within the project area.	No Wild and Scenic Rivers are within the project area.

Potential Impact	Alternative 1 (Express Lanes)	No-Build Alternative (No Action)
<i>Parks and Recreational Facilities</i>	Under Section 4(f), one historic property, P-37-012096, was identified in the area of potential effect (APE). The preliminary determination is that construction and operation of the project would result in no adverse effects on the activities, features, and attributes of site P-37-012096 subject to protection under Section 4(f). The effects of the proposed project on site P-37-012096 subject to the provisions of Section 4(f) of the United States Department of Transportation Act constitute a <i>de minimis</i> impact. These findings are considered valid unless new information is obtained or the proposed effects change to the extent that a new analysis is needed.	No impacts.
<i>Farmland and Timberland</i>	No Farmlands or Timberlands are within or adjacent to the project area.	No Farmlands or Timberlands are within or adjacent to the project area.
<i>Growth</i>	No impacts.	No impacts.
<i>Community Character and Cohesion</i>	Short-term impacts due to construction activities and equipment include temporary road closures, detours, increased noise and dust, and visual changes. There are no permanent impacts to community cohesion as it currently exists. The project would improve connectivity to other communities but it would also increase the scale of the freeway infrastructure, increasing urban character. However, soundwall treatments and aesthetic trees and plants will provide visual and aesthetic appeal to lessen the urbanized effect.	Existing community impacts from congestion and cut-through traffic on local arterials would remain. There would be no changes to community cohesion as it currently exists.
<i>Relocations and Real Property Acquisition</i>	Would require full acquisition and displacement of one bungalow/storage parcel located at 684 East Barham Drive in the City of San Marcos. A partial acquisition of the parking lot at Grace Church property located at 855 East Barham Drive in the City of San Marcos would have a net loss of 12 parking spaces. 751 Rancheros Drive would have a net loss of four parking spaces, and 698 Rancheros Drive would have a net loss of four parking spaces. These displacements are non-residential.	No impacts.
<i>Utilities and Emergency Services</i>	Relocation of utilities would result in localized construction impacts that would require coordination and possible temporary measures to maintain service. Coordination with utility providers would occur in the design phase.	No impacts.

Potential Impact	Alternative 1 (Express Lanes)	No-Build Alternative (No Action)
<i>Existing and Future Land Use</i>	Would require Temporary Construction Easements (TCEs) for construction staging, material and equipment storage, and detours necessary during some periods of construction such as ramp removal and bridge work.	No impacts.
<i>Traffic and Transportation/ Pedestrian and Bicycle Facilities</i>	Overall performance and safety of SR 78 and I-15 would improve. Access to transit stops would improve due to complete street improvements. Would facilitate pedestrian and bicycle access, micro-transit, and micro-mobility services such as bicycle share and scooter share, and planned bus rapid transit services regionally.	Would operate worse compared to the Build Alternative in regard to future traffic/transportation projections. Accessibility and connectivity would continue to degrade as densification adds demand to the transportation system and infrastructure improvements are not built. The I-15/SR78 Interchange area experienced over 550 crashes between 2017 and 2022¹. The majority types of crashes in the 5-year period were “rear end” and “sideswipe”—observed in areas with queueing or weaving conditions. Does not provide safety improvements. Crashes related to weaving and queueing may persist or increase as densification leads to additional travelers using the system.

¹ Defined as northbound (NB) I-15 from PM R30.1 to PM 31.34, southbound (SB) I-15 from PM R30.82 to PM R31.34, eastbound (EB) SR 78 from PM 15.49 to PM R16.23, and EB SR 78 to SB I-15 Connector at PM R31.268. Based on Caltrans Traffic Accident Surveillance and Analysis System (TASAS) data from Oct 1, 2017, through Sept 30, 2022.

Potential Impact	Alternative 1 (Express Lanes)	No-Build Alternative (No Action)
<i>Visual/Aesthetics</i>	The project would affect neighborhood character, as described in Section 2.1.9 of this EIR/EA. No impacts on scenic highways are anticipated. This alternative would not adversely modify the existing nighttime views or emit a significant amount of additional light or glare. Temporary visual impacts may occur due to the contractor's operations, such as contractor yards, or batch plants. Contractor use areas would be returned to the original condition after the contractor vacates the site. Freeway retaining walls and soundwalls have been designed and sited to reduce visual impacts. All project walls include texture and color to integrate the walls with the surrounding area. Where possible, trees and shrubs or vines are placed in front of the wall to help improve the visual quality and character and help to mask the walls and reduce their visual impact.	No impacts.
<i>Cultural Resources</i>	This alternative achieves a finding of No Historic Properties Affected. However, potential discovery of previously unknown cultural and historical resources may occur.	No impacts.
<i>Hydrology and Floodplain</i>	No floodplain encroachment.	No impacts.
<i>Water Quality and Storm Water Runoff</i>	Impervious surfaces proposed by the project would replace existing impervious surfaces, such as paved roadways. The project would result in a net increase in impervious surface area; Approximately 7.24 acres of new local impervious surface and 44.20 acres of new Caltrans impervious surface. A Storm Water Pollution Prevention Plan (SWPPP) would be required prior to construction.	No impacts.
<i>Geology, Soils, Seismicity and Topography</i>	No impacts are anticipated.	No impacts.
<i>Paleontology</i>	This alternative would occur in the built environment in an area with low potential for buried paleontological resources. However, there is a potential for discovery of previously unknown paleontological resources.	No impacts.

Potential Impact	Alternative 1 (Express Lanes)	No-Build Alternative (No Action)
<i>Hazardous Waste and Materials</i>	Testing of soil and groundwater for metals did not exceed screening criteria for commercial/industrial soil. Groundwater concentrations are not indicative of hazardous waste, but additional testing may be needed if dewatering is to occur for disposal. Based on the results of testing conducted, hazardous waste is not expected to be encountered in the project area.	No impacts.
<i>Air Quality/ Greenhouse Gas (GHG)</i>	Construction activities may cause localized air quality impacts but would not exceed applicable thresholds. When compared to the No Build Alternative (horizon year 2050), the Build Alternative (horizon year 2050) would result in a net decrease of all pollutants (Nox, CO, ROG, PM ₁₀ and PM _{2.5} emissions). Once constructed, it would not negatively affect long-term air quality. The Build Alternative would result in a decrease in annual GHG emissions compared to the No Build Alternative.	No impacts.
<i>Noise and Vibration</i>	Construction activities could cause intermittent localized vibration in the project area. Noise abatement in the form of soundwalls and berms that meet the reasonable and feasible test are proposed.	No impacts.
<i>Energy</i>	The alternative would result in direct but temporary fuel usage during construction (short-term) as well as the direct operational fuel consumption (i.e., vehicles using the transportation facility long-term). This alternative would improve operations to accommodate express lanes and clean air vehicles as well as improve interchange operations to reduce vehicle weaving and cut-through traffic.	Inconsistent with various energy and sustainability goals and policies of the regional and local plans. These inconsistencies include improving travel safety and reliability for people and goods, accommodating pedestrians and motorists, encouraging alternative modes of transportation, reducing congestion and associated GHG emissions, and improving safety.
<i>Natural Communities</i>	Approximately 7 acres of Diegan coastal sage scrub, 0.1 acres of southern riparian scrub, and 0.4 acres of valley foothill grassland would be permanently impacted.	No impacts.
<i>Wetlands and Other Waters</i>	Approximately 0.1 acres of wetland would be impacted, which includes southern riparian scrub to the tributary of the San Marcos Creek.	No impacts.

Potential Impact	Alternative 1 (Express Lanes)	No-Build Alternative (No Action)
<i>Plant Species</i>	Approximately 7 acres of Diegan coastal sage scrub would be permanently impacted. 0.1 acre of disturbed wetland with southern willow scrub would be impacted at the Barham Drive proposed interchange. SR 78 widening west of Barham Drive would permanently impact 0.4 acres of valley and foothill grassland.	No impacts.
<i>Animal Species</i>	Permanent impacts are anticipated to California gnatcatcher (CAGN). One acre of coastal sage scrub and 6 acres of disturbed coastal sage scrub are anticipated.	No impacts.
<i>Threatened and Endangered Species</i>	There would be impacts to federally threatened coastal California gnatcatcher as a result of permanent impacts to coastal sage scrub.	No impacts.
<i>Invasive Species</i>	Potential to contribute to the spread of invasive species would be minimized through implementation of avoidance, minimization, and/or mitigation measures.	No impacts.
<i>Construction</i>	Ground disturbance, noise, and other airborne impacts would occur during construction.	No impacts.
<i>Wildfire</i>	Would not impair implementation of an emergency response or emergency evacuation plan, exacerbate wildfire risks or expose project occupants to pollutants from a wildfire or the uncontrolled spread of a wildfire.	No impacts.
<i>Senate Bill 743/Induced Demand Analysis</i>	It is estimated to induce 17.78 million vehicle miles traveled (VMT) annually which would be offset with implementation of the mitigation measures, which would result in a reduction of 19.88 million VMT annually. As a result, the project-induced VMT is expected to be less than significant with mitigation incorporated.	No impacts.
<i>Climate Change</i>	Provides reliable, sustainable transportation options, reduced travel times, improved mobility, and greater access to jobs, housing, and services. Reduces the number of vehicles and time spent traveling on the facility and regionally. Construction activities may result in short-term impacts.	Inconsistent with various energy and sustainability goals and policies of the regional and local plans to address GHG emissions and climate change. Does not encourage alternative modes of transportation, reduce congestion, or improve GHG emissions.

S-4 Coordination With Public And Other Agencies

Coordination with the public and other agencies was initiated with posting and circulating the Notice of Preparation (NOP) for 30 days from October 19, 2020, to November 20, 2020. During the 30-day scoping period, Caltrans and San Diego Association of Governments (SANDAG) hosted a virtual scoping meeting on October 29, 2020. The public scoping meeting was announced by publishing public notices in *San Diego Tribune* on Sunday, October 18, 2020, and *Escondido Times Advocate*, *The Community Paper*, and *El Latino* on Thursday, October 22, 2020. In addition to the newspaper notices, postcards and letters were mailed to residents and businesses in the proposed project area, as well as federal and state stakeholders including California Department of Fish and Wildlife (CDFW) and Native American Heritage Commission (NAHC).

The public scoping meeting was held to provide information regarding the project and to discuss and record any comments from community members regarding the proposed project. All scoping efforts were conducted in compliance with Caltrans Title VI goals.

In addition to the virtual public scoping meeting, public notification efforts were established via project-specific internet presence, including a project website, interactive map with commenting capabilities, and project-specific videos uploaded to YouTube. The project website included an interactive map with the ability of the viewers to comment and project-specific videos uploaded to YouTube. A recording of the virtual public scoping meeting was also uploaded to YouTube.

During the scoping process, 58 comments were received via email and through the project website. Based on the comments, top priorities and concerns included traffic congestion, lane configuration, managed lanes, managed lanes pricing, noise, bicycle/pedestrian access, transit, and project funding.

Project Development Team (PDT) meetings have been held for approximately the past two years on a monthly frequency with Caltrans stakeholders, SANDAG, and the City of San Marcos. These meetings have been utilized to garner input, strategize with local partners, and inform team members of the project schedule.

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under the California Environmental Quality Act (CEQA).

In alignment with the adopted SANDAG 2021 Regional Plan and in-progress Draft 2025 Regional Plan, Caltrans proposes the construction of direct connector lanes between Interstate 15 (I-15) and State Route 78 (SR 78) for Managed Lane vehicular traffic, which would utilize an Express Lanes management system. This direct connector would interconnect the existing I-15 Express Lanes with the proposed future managed lane facility on SR 78 from the Twin Oaks Valley Road overcrossing (OC) to the I-15 junction. Operational improvements within the project limits are also proposed. These improvements include auxiliary lane construction, bridge replacement, bridge widening, ramp relocations, and street realignments.

The proposed connector is listed as the top priority among HOV Connector projects in the San Diego Association of Governments (SANDAG) 2050 Regional Transportation Plan (2050 RTP). The proposed project is also included in SANDAG's North County Comprehensive Multimodal Corridor Plan (CMCP) (2023).

1.2 Purpose and Need

1.2.1 PURPOSE

The purpose of the project is to provide reliable and sustainable transportation options, reduce travel times, improve mobility and access to jobs, housing, and services within North County communities near the project, as outlined in the adopted 2021 Regional Plan and envisioned in the Draft 2025 Regional Plan. The project is an important system element for providing mobility in the San Diego region by providing improved access that would help alleviate travel time delay caused by population and job growth within the San Marcos and Escondido Mobility Hubs served by the transportation system. As noted by SANDAG, Mobility Hubs are communities with a high concentration of people, destinations, and travel choices. They offer on-demand travel options and supporting infrastructure that enhance connections to high-quality transit services. Mobility Hubs can span one, two, or a few miles based on community characteristics, and are uniquely designed to fulfill a variety of travel needs while strengthening sense of place.

To accomplish the project's purpose, the project incentivizes modes that have lower per capita emissions than single occupancy vehicles (SOVs), minimize vehicle hours traveled (VHT) by reducing the number of vehicles and time spent traveling, and complete a key element of the region's planned managed lanes system. The following expands on the purpose of the project:

- Support emerging mobility hubs within the Cities of Escondido and San Marcos by improving local connectivity within the surrounding communities, including access to employment, housing, education, and hospital/medical services. The San Marcos and Escondido Mobility Hubs are shown in Figure 1-1, superimposed over the project limits.

Figure 1-1. San Marcos and Escondido Mobility Hubs



- Improve multi-modal (e.g., cycling, walking) access and connectivity to California State University (CSU) San Marcos, SPRINTER, and adjacent North City urban development from the Woodland Parkway/Barham Drive interchange and Inland Rail Trail.
- Improve operations of existing I-15 Express Lanes by providing Managed Lanes-to-Managed Lanes connectors between I-15 and SR 78 to accommodate high-occupancy vehicle (HOV), clean air vehicles, and bus rapid transit—and the opportunity for future tolled single-occupant vehicles.
- Improve interchange operations and safety within the project corridor by reducing vehicle weaving to/from general purpose connectors on I-15.
- Increase transportation options for commuters and general travelers using the SR 78 corridor by facilitating future bus rapid transit services to key destinations in the project corridor (e.g., CSU San Marcos, Palomar Community College).
- Utilize operational improvements (e.g., managed/auxiliary lanes) to reduce “cut through” traffic from I-15 through local communities (e.g., Twin Oaks Valley Road, El Norte Parkway) to access destinations in Escondido, San Marcos, Vista, and Carlsbad along SR 78.
- Provide consistency with the currently adopted 2021 Regional plan, Draft 2025 Regional Plan, 2023 Regional Transportation Improvement Plan (RTIP) and

applicable federal and state regulations, and meet the associated transportation goals, where feasible.

- Complete a key element of the region's managed lanes system by extending them to the San Marcos Mobility Hub.

1.2.2 NEED

Since the early 1990s, the communities served by the project have grown in both population and employment, developing their communities from rural to suburban, and now to emerging urban centers. The resultant demand for additional housing, employment, and public services would continue to increase demand on the existing local and regional transportation network, especially the I-15/SR 78 freeway-to-freeway interchange which is already at or over capacity for much of the day.

Notably, population in the region has grown by nearly 50% (approximately 220,000) and is expected to grow by 24,000 people by 2050. Employment has grown by over 50% (approximately 100,000) and is expected to grow by 41,500 jobs by 2050.

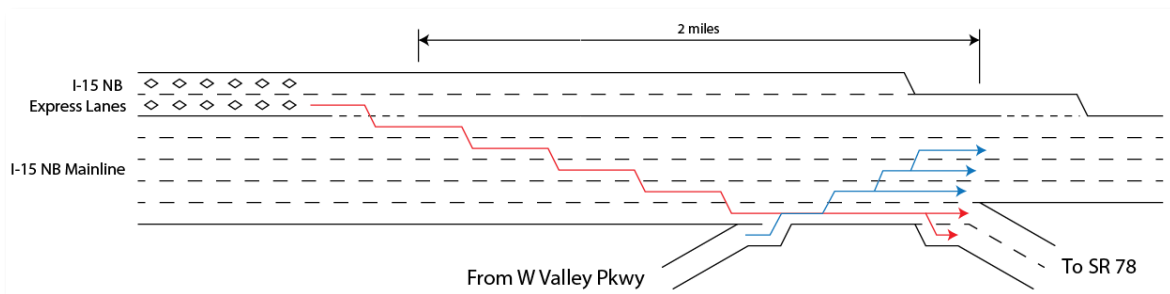
The current freeway-to-freeway interchange and surrounding transportation network are part of an inland mobility gateway with limited multi-modal options at the center of a mega region comprising San Diego, Orange, and Riverside counties.

The current interchange access and operations have the following deficiencies and network effects:

- According to SANDAG's Highway Hot Spots & Volumes Tracker, SR 78 at Barham Drive has consistently been listed in the top ten bottlenecks in San Diego County since January 2020.
- Current multi-modal options along the SR 78 corridor and in the surrounding communities lack high-frequency, high-capacity transit services (e.g., rail, commuter bus, bus rapid transit) to current and future major employment centers in North County.
- The San Diego region's current managed lane system does not reach key destinations in North County, such as CSU San Marcos; Palomar College; and employment, housing, and services in San Marcos and Escondido west of I-15.
- Express Lane users must enter the general purpose queue to access westbound SR 78, which limits the travel time benefits of taking transit and carpooling.
- The operations of the Express Lanes are negatively impacted by the general purpose lane congestion spilling onto the Express Lanes.

- Approximately 1,500² northbound vehicles in the afternoon peak utilize I-15 Express Lanes and are required to merge across five general purpose lanes to access the SR 78 connectors. This is the same location where northbound vehicles entering from West Valley Parkway must merge across at least two lanes to continue north. The resulting weaving (between entering, exiting, and through traffic) causes congestion, affects managed lanes operations, reduces trip reliability, and increases travel times. The weaving, along with queuing due to high traffic volume, can cause abrupt changes in speed and increases opportunity for collisions. In this area, the most common types of collisions are rear end (associated with queuing) and sideswipe (associated with weaving). These maneuvers and resulting weaving are shown in Figure 1-2.

Figure 1-2: I-15 Northbound Weave Movement

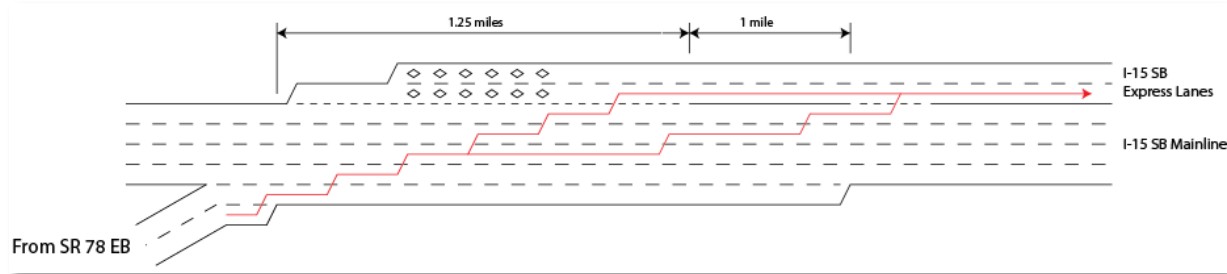


- SR 78 vehicles navigating toward the southbound I-15 Express Lanes are required to merge across at least five lanes within 1.25 miles, or 2.25 miles, to access intermediate access points (IAP) for the I-15 Express Lanes. During the peak periods, approximately 400³ vehicles per hour are making this maneuver to the initial entrance of the Express Lanes. The weaving between entering traffic and through traffic causes congestion, affects managed lanes operations, reduces trip reliability, and increases travel times. The weaving, along with queuing due to high traffic volume, can also cause abrupt changes in speed and increases opportunity for collisions. In this area, the most common types of collisions are sideswipe (associated with weaving) and rear end (associated with queuing). This maneuver and resulting weaving is shown in Figure 1-3.

² Inferred from Streetlight User Profile data. Confirm and insert reference to streetlight analysis for user profiles/demand. Not analyzed as part of the CMCP.

³ Inferred from Streetlight User Profile data. Confirm and insert reference to streetlight analysis for user profiles/demand. Not analyzed as part of the CMCP.

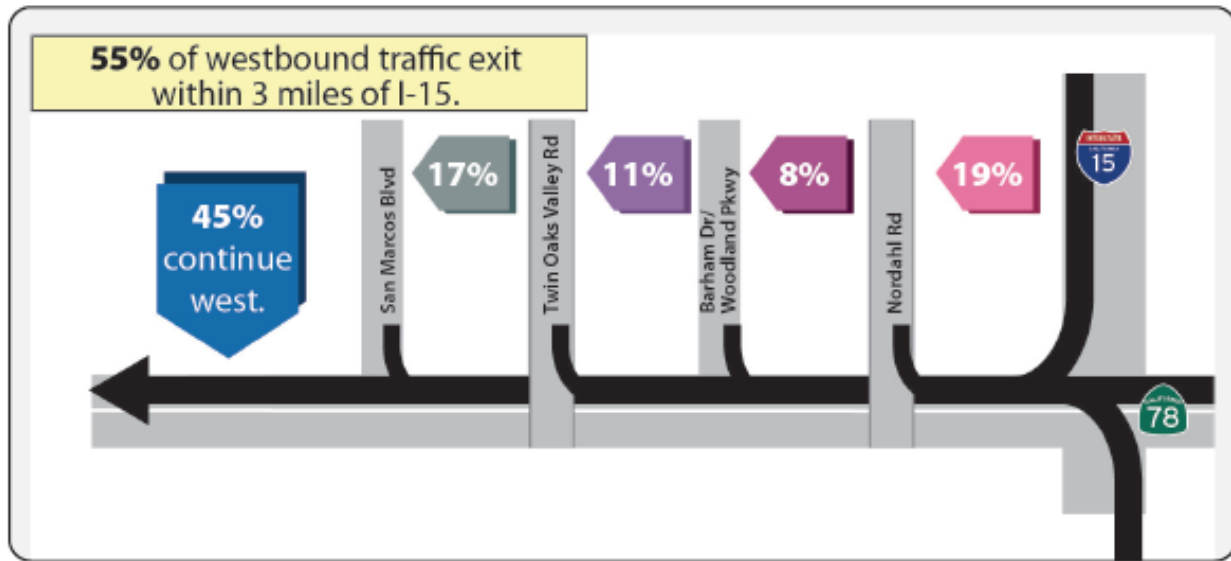
Figure 1-3: I-15 Southbound Weave Movement



- Vehicles traveling north and utilizing I-15 Express Lanes are required to weave across five general purpose lanes to access the SR 78 connectors, while northbound vehicles entering from West Valley Parkway must weave across at least two lanes to continue north. The weaving between entering, exiting, and through traffic causes congestion, affects managed lanes operations, reduces trip reliability, increases opportunity for collisions, and increases travel times.
- The existing demand on westbound SR 78 (west of the interchange) creates a bottleneck generating queues of up to one mile onto I-15 in the northbound direction.
 - Delays varying from 7 to 15 minutes per person for trips during peak hours from freeway connector queues encourage travelers to use adjacent arterials—generating regional cut-through traffic in local communities.
 - A path choice analysis performed from I-15 to SR 78 identified approximately 10% of vehicles from I-15 to SR 78 westbound use alternate routes to avoid the bottleneck at the interchange which generates cut-through traffic on local collectors and arterials. The four alternate routes the analysis identified were Twin Oaks Valley Road/Deer Springs Road, Country Club Lane/Woodland Parkway, El Norte Parkway, and West Valley Parkway.

The concentrated demand in the City of San Marcos and into the Palomar/Vista Business Centers requires many travelers to exit the SR 78 corridor by San Marcos Boulevard. As shown on Figure 1-4 below, over half (55%) of westbound traffic on SR 78 (from I-15) exits the freeway. This concentrated demand into a key regional destination, combined with limited travel alternatives in the transportation system, creates operational bottlenecks along SR 78 where it connects with the interstate system (i.e., I-15). The project would be part of a system-based solution to extend the managed lanes system from I-15 into SR 78 up to three miles and focus on providing travel alternatives to meet the travel demand surrounding the interchange.

Figure 1-4: SR 78 Westbound Traffic Exit Distribution from I-15



The project Build Alternative was designed to address the defined corridor needs as follows:

Table 1-1: I-15/SR 78 Corridor Needs

Access	The proposed extension of the Express Lanes to Twin Oaks Valley Road supports access to the Escondido and San Marcos mobility hubs.
Network Connectivity	The proposed multiuse paths along Barham Drive and Woodland Parkway address the need to improve bicycle and pedestrian network connectivity to CSU San Marcos, SPRINTER, Inland Rail Trail, and adjacent North County urban development.
Operational Improvements	The proposed Managed Lanes-to-Managed Lanes connector between I-15 and SR 78 addresses the need to improve operations of existing I-15 Express Lanes by reducing the delay and queuing that result from the high volume of vehicles weaving to and from the general-purpose connectors on I-15.
	The proposed extension of the Express Lanes to Twin Oaks Valley Road and proposed auxiliary lanes on SR 78 address the need to utilize operational improvements to reduce cut-through traffic from I-15 through local communities.
Managed Lanes	The proposed Managed Lanes-to-Managed Lanes connector between I-15 and SR 78 addresses the need to accommodate HOVs, clean air vehicles, and bus rapid transit—and the opportunity for future tolled single-occupant vehicles.

<i>Interchange Safety</i>	The proposed Managed Lanes-to-Managed Lanes connector between I-15 and SR 78 addresses the need to improve interchange safety in the project corridor by reducing the vehicle conflicts that result from the high volume of vehicles weaving to and from the general-purpose connectors on I-15.
<i>Transportation Options</i>	The proposed extension of the Express Lanes to Twin Oaks Valley Road addresses the need to increase transportation options for commuters and general travelers using the SR 78 corridor by facilitating future bus rapid transit services to key destinations in the project corridor (e.g., CSU San Marcos and Palomar Community College).
<i>Regional Plan Consistency</i>	The proposed project features are consistent with the adopted 2021 Regional Plan, Draft 2025 Regional Plan, 2023 RTIP and applicable federal and state regulations, and meet the associated transportation goals by completing a key element of the region's managed lanes system, improving safety, focusing on operational improvements and transportation demand management (TDM) strategies, and facilitating multi-modal connectivity. Additionally, the proposed project is consistent with SANDAG's TransNet Extension and Ordinance by aligning with its core goals to reduce congestion, expand transit options, and improve regional connectivity.

1.2.3 INDEPENDENT UTILITY AND LOGICAL TERMINI

The project limits, between I-15 PM: R30.6/R32.0 and SR 78 PM: 11.0/R16.7, serve as logical termini, or rational end points for transportation improvements and are sufficient to evaluate the potential environmental impacts of the project which includes both I-15 and SR 78 because the project purpose is to provide new direct connectors between the existing I-15 Express Lanes and three miles of new Managed Lanes on SR 78 which would improve connectivity and traffic flow on and between the two corridors. Additionally, the proposed Managed Lanes-to-Managed Lanes connector between I-15 and SR 78 would directly enhance regional access to two key mobility hubs: the existing Escondido Transit Center and the future San Marcos Civic Center Mobility Hub. By providing a seamless, high-speed connection for high-occupancy vehicles, clean air vehicles, and bus rapid transit, the project would improve travel time reliability and operational efficiency for east-west transit routes serving both hubs. This enhanced connectivity supports regional goals to expand transit use, reduce greenhouse gas emissions, and improve access to multi-modal transportation options.

1.3 Project Description

The proposed project is located in the cities of Escondido and San Marcos on I-15 (PM: R30.6/R32.0) and on SR 78 (PM:11.0/R16.7). In alignment with the SANDAG 2025 Draft Regional Plan, this project proposes to build direct connector ramps utilizing lane management systems that would link the existing I-15 Express Lanes, which currently end just south of the I-15/SR 78 interchange in Escondido and extend managed lanes west on SR 78 for approximately three miles in both eastbound and westbound directions. The project would also reconstruct Barham Drive and the Woodland Parkway Interchange to improve multi-modal access across SR 78. Class I multiuse paths are proposed along Barham Drive and Woodland Parkway. Traffic signals within the project limits would be upgraded to provide multi-modal efficiency and safety benefits.

The Build Alternative proposes to extend three miles of managed lanes in each direction on SR 78 between San Marcos Boulevard and I-15, build a direct connector for Express Lanes between I-15 and SR 78, extend the westbound auxiliary lane between Nordahl Road and Woodland Parkway/Barham Drive, relocate the eastbound SR 78 on-ramp from Barham Drive, widen and realign Barham Drive from La Moree Road to Woodland Parkway, widen the Woodland Parkway undercrossing, and construct multiuse paths on Barham Drive and Woodland Parkway.

The managed lanes proposed in the Build Alternative would be constructed as high-occupancy toll (HOT) lanes, also called Express Lanes, meaning that high-occupancy vehicles (HOVs) can use the lanes free of charge, but single-occupancy vehicles (SOVs) would be required to pay a toll. The managed lanes would also be used as transit lanes for new and existing bus and Rapid bus routes serving the region. The uses for managed lanes are continually evolving; in the future, the lanes could be repurposed to embrace emerging technologies, such as connected and/or autonomous vehicles.

The No-Build alternative would not construct any of the proposed project improvements.

Figure 1-5 shows the project vicinity and Figure 1-6 depicts the project location.

Express Lanes provide a managed approach to improving system performance and reliability, optimizing use of capacity, and creating new sources of revenue to further improve transportation in the corridor, including transit. Also known as HOT lanes, Express Lanes provide preferential access for eligible vehicles, such as HOVs and certain low-emission vehicles, and/or for fee payment by FasTrak users.

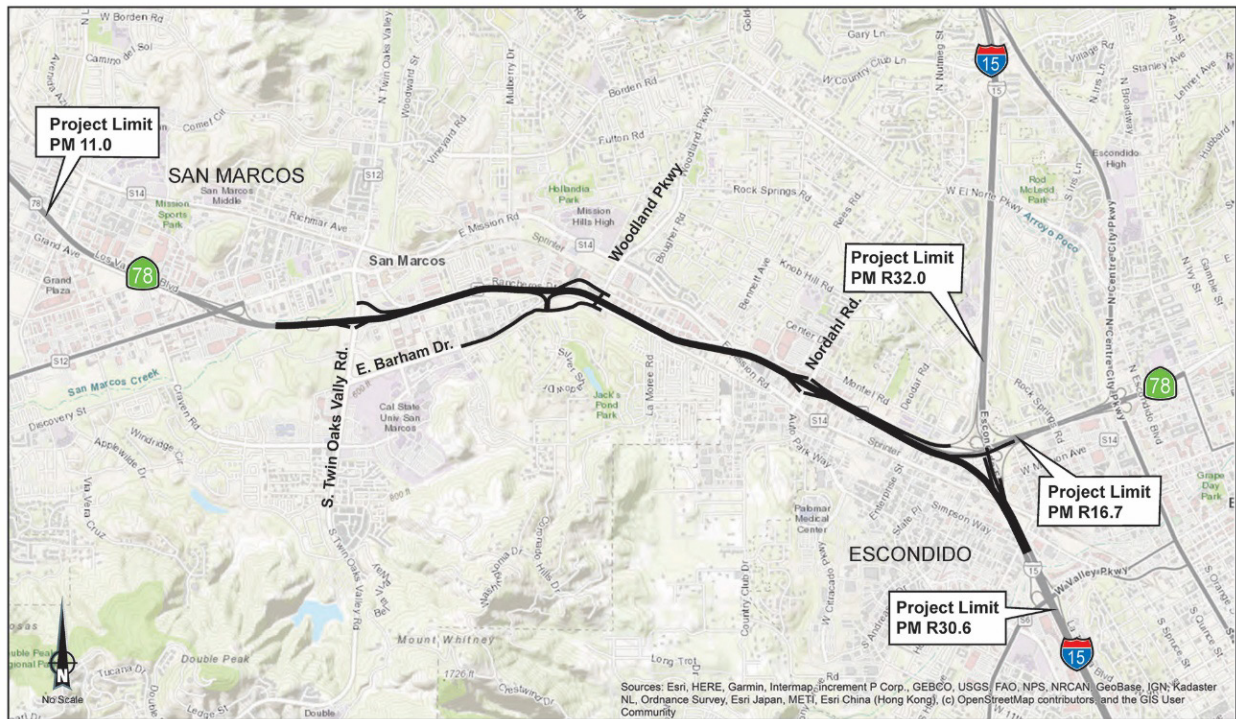
This project would utilize the Managed Lanes operational concept through implementation of Express Lanes to reduce the demand on the existing I-15/SR 78 connectors by providing dedicated lanes for managed lane traffic to transition between the I-15 Express Lanes and the proposed future SR 78 Managed Lane project. The use of lane management strategies and congestion pricing would reduce congestion in the general-purpose and connector lanes by allowing some general-purpose vehicles with FasTrak transponders to use excess capacity in the managed lane connector. Motorists

in the general-purpose lanes would also benefit from the reductions of vehicles in the main lanes.

Figure 1-5: Project Vicinity



Figure 1-6: Project Location



1.4 Project Alternatives

The two project alternatives consist of a No Build Alternative and a Build Alternative. The No Build Alternative would maintain the existing geometry, lane configurations, and system management operation for both I-15 and SR 78.

1.4.1 NO-BUILD (NO-ACTION) ALTERNATIVE

A No Build Alternative was considered for this project. This alternative would maintain the existing geometry, lane configurations, and system management operation for both I-15 and SR 78. Current and future traffic deficiencies would not be addressed in this alternative and would not fulfill the need and purpose of this project. This alternative would not meet the goals of SANDAG's 2050 Regional Transportation Plan (RTP) or of the SANDAG TransNet Extension and Ordinance. Therefore, regional connectivity between the current managed lanes facility along I-15 and future managed lanes facilities proposed for I-5 and SR 78 would not be provided.

1.4.2 ALTERNATIVE 1 (EXPRESS LANES)

Alternative 1 is the Express Lanes (Build) Alternative. It would include multi-modal improvements to provide reliable and sustainable transportation options, reduce travel times, and improve mobility and access to jobs, housing, and services in North County.

This alternative would extend the I-15 Express Lanes onto SR 78. The westbound Express Lane would extend to west of Woodland Parkway. The westbound Express

Lane would then transition into the inside general-purpose lane, and the outside general-purpose lane would end after the off-ramp to Twin Oaks Valley Road. Thereby allowing the new configuration to match the existing three-lane configuration to the west and accommodate the future planned managed lanes extension. The eastbound Express Lane would begin as a new lane just west of Twin Oaks Valley Road. Intermediate access would be available near Nordahl Road for both directions.

CONNECTIVITY

Barham Drive would be realigned and widened to improve connectivity for infill development and densification near CSU San Marcos. The new Barham Drive would feature bicycle lanes and new Class I multiuse path. The eastbound SR 78 on-ramp from Barham Drive would be moved westward to be adjacent to the off-ramp.

Woodland Parkway would be expanded to provide better connectivity across SR 78. It would include a new multiuse path, completing the multi-modal connection between the Inland Rail Trail and the SPRINTER station at CSU San Marcos.

Alternative 1 would utilize Express Lanes as the lane management strategy for the managed lanes. Express Lanes are a HOT system which combines vehicle occupancy and value pricing to allow Caltrans and SANDAG the ability to adjust the usage requirements based on operating conditions. This alternative would provide connectivity for travel between I-15 Express Lanes and proposed future managed lanes facilities along SR 78. Value pricing is a management tool where the cost to use a managed lane facility is varied to manage the demand on the facility.

SAFETY

This alternative would also upgrade traffic signals at the freeway ramp intersections on Nordahl Road, Rancheros Drive, and Barham Drive. Smart intersection technology (SIS) can provide operations and safety benefits to all modes of transportation. Example SIS applications that could be considered include warning drivers of bicycle/pedestrian presence, crash prediction response (red-light extension), walk extension for vulnerable pedestrians, and near-miss analysis.

This alternative would also include operational improvements to alleviate merging and weaving conditions. These conditions were often mentioned by the public in response to community outreach. The weaving drivers on northbound I-15 from the Express Lanes to the general-purpose connectors would be reduced because those drivers could stay in the Express Lanes to access westbound SR 78. The queuing on northbound I-15 from the general-purpose connectors would be reduced for the same reason. The bottleneck on westbound SR 78 at Nordahl Drive would be alleviated. The queuing and late weaving on eastbound SR 78 approaching the general-purpose connectors would be reduced, because travelers headed to the southbound I-15 Express Lanes would be able to use the Express Lane connectors, reducing the traffic volume on the general-purpose connector. Weaving on southbound I-15 between SR 78 and Valley Parkway would be improved due to lower traffic volumes on the general-purpose connector and

travelers not needing to weave across the southbound I-15 lanes to access the Express Lanes.

OPERATIONAL IMPROVEMENTS

This alternative would allow HOV traffic and people with a FasTrak transponder to utilize the proposed I-15/SR 78 managed lane connector. It would increase transportation options and provide travel-time incentives to use carpools, van pools, or transit during peak travel periods. Drivers of vehicles below the occupancy threshold would pay a fee that is adjusted based on the demand of the managed lanes to keep these lanes free-flowing or at an acceptable level of service (LOS).

People traveling from the northbound I-15 Express Lanes to westbound SR 78 would no longer have to exit the managed lanes facility. There would be a continuous path to the proposed future SR 78 managed lanes. Eastbound SR 78 Express Lane traffic would also have a continuous managed lane route to the I-15 Express Lanes facility.

By allowing people with FasTrak transponders to pay a fee to access the managed lane facility, any available capacity in the system could be utilized. When Express Lane demand is high, prices are adjusted to maintain free-flow conditions by discouraging FasTrak users from entering the facility during these high-volume periods. When express lane demand is low, prices are adjusted to reduce FasTrak traveler expense.

RELIABILITY

Extending the Express Lanes onto SR 78 would allow more reliable trips to the San Marcos Mobility Hub and better access to jobs along San Marcos Boulevard/Palomar Airport Road. The proposed Express Lanes extension in Alternative 1 would allow Express Lanes users to bypass much of the weaving and congestion in the general-purpose lanes before exiting to San Marcos Boulevard. It would also provide the infrastructure to operate new or extended rapid transit service. Crash rates and types for these areas are typically rear-end crashes often associated with queuing, and sideswipe crashes are often associated with weaving. This alternative is expected to improve safety by improving the weaving and queuing as described above.

The improved operations and travel times on the freeway are expected to reduce cut-through traffic in nearby communities. An origin-destination study showed that approximately 10% of vehicles navigating from I-15 to SR 78 westbound use alternate routes to avoid the bottleneck at the interchange, creating cut-through traffic on local collectors and arterials. The four alternate routes that the study identified were Twin Oaks Valley Road/Deer Springs Road, Country Club Lane/Woodland Parkway, El Norte Parkway, and West Valley Parkway.

The project would also provide the infrastructure needed to extend existing bus rapid transit routes or create new routes to serve the growing region. Buses utilizing the Express Lane connectors would be able to bypass congestion and weaving movements occurring in the general-purpose lanes. Travelers who may have otherwise chosen to

drive would be incentivized to choose transit due to faster and more reliable travel times, especially during peak hours.

1.5 Comparison of Alternatives

After comparing and weighing the benefits and impacts of all feasible alternatives, some of which are summarized below, the Project Development Team has identified Alternative 1 as the preferred alternative, subject to public review. Final identification of a preferred alternative would occur after the public review and comment period.

Table 1-2: Comparison of Alternatives

Project Purpose	Alternative 1 Express Lanes	No Build
Support emerging mobility hubs in the cities of Escondido and San Marcos by improving local connecting in the surrounding communities, including access to employment, housing, education, and hospital/medical services.	X	
Improve multi-modal (e.g., cycling and walking) access and connectivity to CSU San Marcos, SPRINTER, and adjacent North City urban development from the Woodland Parkway/Barham Drive interchange and Inland Rail Trail.	X	
Improve operations of existing I-15 Express Lanes by providing Managed Lanes-to-Managed Lanes connectors between I-15 and SR 78 to accommodate HOVs, clean air vehicles, and bus rapid transit—and the opportunity for future tolled SOVs.	X	
Improve interchange operations and safety in the project corridor by reducing vehicle weaving to/from general-purpose connectors on I-15.	X	
Increase transportation options for commuters and general travelers using the SR 78 corridor by facilitating future bus rapid transit services to key destinations in the project corridor (e.g., CSU San Marcos and Palomar Community College).	X	
Utilize operational improvements (e.g., managed/auxiliary lanes) to reduce cut-through traffic from I-15 through local communities (e.g., Twin Oaks Valley Road and El Norte Avenue) to access destinations in the cities of Escondido, San Marcos, Vista, and Carlsbad along SR 78.	X	
Provide consistency with the adopted 2021 Regional Plan, Draft 2025 Regional Plan, 2023 RTIP, and applicable federal and state regulations, and meet the associated transportation goals, where feasible.	X	
Complete a key element of the region's managed lanes system by extending them to the San Marcos Mobility Hub.	X	

1.6 Alternatives Considered but Eliminated from Further Discussion

Alternatives were considered during the early stages of project development but were eliminated because they would not meet the project's purpose and need or were considered infeasible. The following describes these alternatives and why they were not advanced for further evaluation.

1.6.1.1 Express Lanes Extension

As part of Alternative 1: Express Lanes, under consideration was extending the Express Lanes further, to west of San Marcos Boulevard. This extension was expected to result in additional traveler benefits. However, project constraints such as schedule and budget limitations were identified. A future project would study the SR 78 Express Lane extension as part of the larger planned SR 78 Managed Lanes Project. The proposed project focuses on the interchange of the two freeways and the identified weaving issues.

1.6.1.2 HOV Alternative

The HOV lane alternative would implement the same managed-lane improvements as Alternative 1 but with HOV lanes instead of Express Lanes. The HOV lane-management strategy restricts allowable users with no way to adjust in real time. The Express Lane strategy allows the same users as the HOV strategy but also allows excess capacity to be used and managed in real time, based on traffic conditions.

The HOV strategy can result in “empty lane syndrome” with excess capacity that remains unused. With the HOT strategy, lane congestion can be managed. In addition, the HOV strategy is not consistent with the Regional Plan.

The HOV alternative would not advance the regional goal of creating a regional HOT system. This alternative was eliminated for the following reasons:

- The HOV lane-management strategy restricts allowable users with no way to adjust in real time. The HOT strategy allows the same users as the HOV strategy but also allows excess capacity to be used and managed in real time, based on traffic conditions.
- While the HOV strategy can lead to “empty lane syndrome,” where lanes are underutilized due to occupancy restrictions, the HOT strategy allows for dynamic management of lane capacity by adjusting access based on demand, optimizing lane usage.
- The HOV strategy is not consistent with the Regional Plan and would not advance the regional goal of creating a regional HOT system.
- The HOT alternative represents a worst-case scenario for analysis of traffic impacts. In a way, the HOV strategy can be viewed as a subset of the HOT strategy, because it matches what would occur with high toll prices.

1.6.1.3 Reversible Lanes

Per Assembly Bill 2542, reversible lanes must be considered when submitting a capacity-increasing project or a major street or highway lane realignment project.

Reversible lanes are when managed lanes operate in one direction during the morning (AM) peak period and the opposite direction in the evening (PM) peak period. Reversible lanes are separated from general-purpose lanes by barriers in order to avoid confusion and operate safely. In certain conditions, reversible lanes can reduce the right-of-way (ROW) needs and capital costs of highway improvements while providing additional capacity during the peak period when it is most needed. A reversible lanes strategy was considered for the proposed project. The Caltrans Managed Lanes Guidelines recommend a directional split of at least 65% to implement reversible lanes. Existing volumes were taken from 2019 on SR 78 from San Marcos Boulevard to the I-15 connectors and on I-15 from West Valley Parkway to the SR 78 connectors. Table 1-3 below shows the approximate number of vehicles traveling in each direction on SR 78 and I-15 during the AM and PM peak hours.

Table 1-3. Reversible Lanes

Roadway Segment		Approximate Vehicular Volume	
	Time of Day	North/West Direction	South/East Direction
SR 78	AM	5,500	4,500
	PM	5,000	5,000
I-15	AM	5,000	6,500
	PM	8,000	5,500

The data above show that volumes along SR 78 stay relatively consistent throughout the morning and evening peak periods in both directions. There is not enough of a difference in directionality to justify a reversible lane. On I-15, there are more vehicles traveling in the northern direction in the evening peak than in the morning peak. Further, on I-15, there are fewer vehicles travelling in the southern direction in the evening peak than the morning peak. The 2050 forecasted volumes predict similar findings. These trends show that reversible lanes would not be an effective strategy for the SR 78 managed lanes.

1.6.1.4 Widen Existing I-15/SR 78 Connectors

This alternative would require major reconstruction of the existing I-15/SR 78 Separation connectors to widen the NB 15/WB 78 connector and the EB 78/SB 15 connector. To accomplish the widening of the two existing connectors, the proposed structures would be constructed within a tightly constrained footprint due to the existing adjacent structures and roadways that comprise the remainder of the I-15/SR 78 Separation. Additional widening to both sides of I-15, south of the Separation, and to both directions of SR 78 would be needed to realign traffic with the widened connectors. Construction staging activities would cause substantial impacts and delays to traffic along both the I-15 and SR 78 roadways.

Widening the existing connectors would add capacity, which would lessen the congestion on each of the connectors, but it would not address the weaving movements through the general-purpose lanes from traffic that utilize the I-15 Express Lanes. Future connectivity between the I-15 Express Lanes and the future SR 78 managed lanes between I-5 and I-15 would not be provided. This alternative would exceed the total project costs of the other proposed alternatives, and increase ROW and environmental impacts.

1.6.1.5 Operational Improvements Only

This alternative would construct only operational improvements such as auxiliary lanes along SR 78. These improvements may improve traffic operations in isolated point locations or segments but would not address the need and purpose of this project to minimize congestion on the existing I-15/SR 78 connectors and to provide future connectivity between the I-15 Express Lanes and the future SR 78 managed lanes between I-5 and I-15.

1.6.1.6 General-Purpose to HOT Lane Conversion

This alternative would construct HOT lanes and HOT connectors from the I-15 Express Lanes onto SR 78. The HOT lanes on SR 78 would be constructed by converting the existing inside general-purpose lanes and constructing one new lane in each direction. Single-occupancy drivers not willing to pay a toll would need to merge over to one of the two remaining general-purpose lanes. Intermediate HOT lane access would be available near Nordahl Road for both directions.

This alternative would include operational improvements to alleviate merging and weaving conditions. These conditions were often mentioned by the public in response to community outreach. The weaving of drivers on northbound I-15 from the Express Lanes to the general-purpose connectors would be reduced, as those travelers could stay in the Express Lanes to access westbound SR 78.

Converting general-purpose lanes on SR 78 to managed lanes presents several challenges. Because SR 78 has three general-purpose through lanes in each direction, converting one of them to a managed lane would leave only two general-purpose lanes. This reduction is likely to cause substantial congestion in the general-purpose lanes and high violation rates in the managed lanes. The region, as well as other managed lanes nationwide, already experience challenges with enforcement. Extensive signage would be required to notify SOV drivers on eastbound SR 78 that they would need to merge out of the inside general-purpose lane or pay a toll as it transitions to a managed lane. Enforcing a converted lane is not considered feasible at this time.

Based on community interaction and feedback, a lack of public acceptance for a lane conversion on SR 78 is expected. Preserving the existing number of general-purpose lanes eliminates potential managed lanes accessibility impacts. If a general-purpose lane was converted, it would increase travel time and decrease access to the facility to those drivers unable to pay the toll.

1.6.1.7 Express Toll Lanes

This alternative would construct a tolled managed-lane connector between the I-15 Express Lanes and the future proposed managed lanes on SR 78. All HOV and FasTrak vehicles, excluding transit, would be charged a fee to use the connector. Vehicles traveling northbound on the I-15 Express Lanes would need to make a decision before reaching Citracado Parkway to remain on the facility and pay the pricing fee at the proposed connector or to exit at the existing IAP to utilize the existing connector to SR 78. In the eastbound SR 78 direction, traffic wanting to connect to southbound I-15 would also need to use the existing southbound I-15 connector or choose to pay the pricing fee.

Although future connectivity would be provided, full capacity on the proposed connector would not be reached with this alternative, as most drivers would most likely elect to use the existing I-15/SR 78 connectors.

1.7 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications (PLACs) are required for project construction:

Table 1-4: Permits and Approvals

Agency	PLAC	Status
California Department of Fish and Wildlife	1602 Streambed Alteration Agreement	In Progress
California Water Resources Control Board	Clean Water Act (CWA) Section 401 Water Quality Certification	In Progress
City of Escondido	Revised Controlled Access Highway Agreement	In Progress
City of San Marcos	Revised Controlled Access Highway Agreement	In Progress
Federal Highway Administration (FHWA)	Concurrence with project's conformity to Clean Air Act	In Progress
State Historic Preservation Officer	National Historic Preservation Act Section 106 consultation	A Finding of No Adverse Effect was received on December 6, 2024
United States Army Corps of Engineers	CWA Nationwide Section 404 Permit for Dredged and Fill Waters of the United States	In Progress
United States Fish and Wildlife Service (USFWS)	Section 7 Consultation for Threatened and Endangered Species	Biological Opinion was received on January 8, 2025.
California Transportation Commission (CTC)	Project Funding	In Progress

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

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 EIR/EA. Table 2-1 details the topics considered for analysis and provides rationale for why these topics were eliminated.

Table 2-1: Resource Topics Dismissed from Analysis

Resource	Rationale for Dismissal
Coastal Zone	The project is approximately 11 miles from the coast and is not within the California Coastal Commission mapped coastal zone for San Diego County. https://www.coastal.ca.gov/maps/czb/ .
Wild and Scenic Rivers	The nearest Wild and Scenic River is approximately 36 miles northeast of the project site. https://www.rivers.gov/ .
Farmland	Neither the City of San Marcos General Plan nor the City of Escondido General Plan designate farmland near or adjacent to the project site. Further, the California Department of Conservation Farmland Mapping and Monitoring Program does not identify any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, or Williamson Act Contracted lands in or adjacent to the project.
Timberland	Neither the City of San Marcos General Plan nor the City of Escondido General Plan designate forest or timberland near or adjacent to the project.

2.1 Human Environment

2.1.1 EXISTING AND FUTURE LAND USE

This section addresses potential impacts to existing and planned land uses in the project area that could result from implementation of the project alternatives. The analysis is based on the results of *Community Impact Assessment* (April 2025) and *Relocation Impact Report* (2021, updated 2025) prepared for this project.

2.1.1.1 Affected Environment

The project is primarily located in Caltrans' ROW along the I-15 and SR 78 corridor. This corridor crosses through the cities of San Marcos and Escondido; however, the majority of the project area is located in the City of San Marcos.

Land uses adjacent to the corridor are a mix of Low-Density Residential; Medium-Density Residential; and Medium/High-Density Residential; Mixed Use, Light Industrial, Institutional, and Commercial uses and include a variety of businesses such as gas stations, retail stores, self-storage facilities, commercial offices, and grocery stores. Major business retailers including Costco and Walmart are located immediately north of the SR 78 corridor. Adjacent to the corridor to the south are lumber, concrete, metal, plumbing and landscaping warehouses and distribution centers.

In the City of San Marcos, residential uses are the primary land uses consisting of approximately 31% of the planning area. The remaining land uses of the total planning area in the city include vacant land (25%), parks, recreation facilities, trails and open space (14%). Commercial, industrial, and public uses each comprise under 3% of the city's land use.

In the City of Escondido, residential uses are the primary land uses, consisting of approximately 71% of the planning area. The remaining land uses of the total planning area in the city include commercial (2%), industrial and office (3.7%), and public land and open space (15%).

Residential land uses within 0.5 miles of the corridor consist of single-family residences and manufactured homes. Single- and multi-family residences are primarily located north of SR 78 and Woodland Parkway in the City of San Marcos, and north of the SR 78 near the I-15 interchange in the City of Escondido. There are several manufactured home communities located south of eastbound SR 78 and Barham Drive in the City of San Marcos. According to the City of San Marcos General Plan Land Use Map, the existing residential land uses adjacent to and within 0.5 miles of the project are designated Very Low-Density Residential (VDLR) and Low Medium-Density Residential (LMDR) and zoned as Residential Low (R-1-10, Planned Residential Development) and Mobile Home Park (R-MHP). The City of Escondido General Plan designates land uses adjacent to and within 0.5 miles of the project as Residential II and Suburban and zoned as Single-Family Residential (R-1) and Light Multiple Residential (R-2).

The existing retail/commercial and industrial land used adjacent to and within 0.5 miles of the project are designated as Commercial (C), Light Industrial (LI), and Mixed Use 3 (MU3) and zoned Commercial (C), Mixed-Use-3 (MU-3), and Light Industrial (L-I) in the City of San Marcos General Plan. Commercial and industrial land uses adjacent to, and within 0.5 miles of the project in the City of Escondido are designated as Light Industrial, General Commercial, and General Industrial and zoned as Light Industrial (M-1), General Commercial (C-G) and General Industrial (M-2).

The City of San Marcos is primarily a built-out community with opportunities for future development likely involving either mixed use which combines compatible land uses such as residential, commercial and office in a vertical and/or horizontal configuration, and infill development which redevelops existing sites or constructs new buildings on underutilized parcels. The project area is within two City of San Marcos Specific Plan areas: Heart of the City and University District. The Heart of the City Specific Plan area is located north of SR 78 along Twin Oaks Valley Road, and land uses are primarily Public/Institutional and Commercial Manufacturing. The University District Specific Plan area is south of SR 78 along Twin Oaks Valley Road south to Barham Drive, and the land uses are predominately Transit Oriented and Mixed Use.

Although the City of Escondido is largely developed, there is a diversity of newly constructed and established urban, suburban, and rural neighborhoods with unique qualities. The City of Escondido General Plan emphasizes the revitalization of the downtown area and established neighborhoods, promotes economic development in the form of attractive, sustainable, and economically viable industrial and commercial areas, and concentrates high intensity activities in urban core.

Table 2-2, Planned Future Developments, lists the proposed development projects within 5 miles of the project in the cities of San Marcos and Escondido.

Table 2-2: Planned Future Developments

Name	Jurisdiction	Proposed Uses	Status
7-Eleven and Gas Station	City of Escondido (northwest corner of Mission Avenue and Rock Springs Road)	4,000-square-foot convenience store and eight fuel pumps and canopy	Approved on January 13, 2021 Construction documents submitted on July 1, 2021
H.G. Fenton North	City of San Marcos	Mixed Use; in the University District Specific Plan; subdivision map to allow future development consistent with the approved Specific Plan (residential/office)	Grading plans being processed
Kaiser Permanente Hospital	City of San Marcos	428,500-square-foot, seven-story, 206-bed hospital, including 26,000-square-foot central power plant	Under construction
Montiel Road 9, LLC	City of San Marcos	Subdivision of 2.74 acres into nine residential lots	Grading plans being processed

Name	Jurisdiction	Proposed Uses	Status
RJ Realty Investors, LLC	City of San Marcos	32,971-square-foot, two-story commercial/office building with associated site improvements including 185 onsite parking spaces	Approved
San Marcos Hospitality, LLC	City of San Marcos	Four-story, 107-guest-room hotel on a 1.66-acre property	Planning application being processed
Hall Land Company	City of San Marcos	151-unit condominium development on 10 acres	Grading plans being processed
The Sunrise Project	City of San Marcos	193 multi-family units on 14.4 acres	Building permit being processed
Hughes SMCC, LLC	City of San Marcos	67,410-square-foot building and open space on a 10.5-acre site	Planning application being processed
Hollandia Farms, Inc	City of San Marcos	12.45-acre, screened outdoor construction contractor storage yard	Grading plans being processed
Hollandia Dairy	City of San Marcos	Conditional Use Permit for demolition/reconstruction 100,00-square-foot portion of existing dairy	Approved
CRP III Mission, LLC	City of San Marcos	Site Development Plan to redevelop 10.83-acre industrial park. One parcel to be preserved as open space	Planning application being processed
Urban Villages San Marcos TPM (Block 4)	City of San Marcos	Consolidation of 17 properties into two parcels on 8.48 acres	Planning application being processed
Mariposa	City of San Marcos	Subdivision of 8.14-acre site and construction of 100-unit affordable apartment complex Demolition of existing 40-unit building	Under construction
National Community Renaissance of California (Villa Serena)	City of San Marcos	148-unit affordable apartment complex including community center and parking	Building permit being processed
Anthony Sfreddo for Pico Investments 7, LLC	City of San Marcos	Construction of 16 residential condominium units	Planning application being processed
Mission 316 West, KB Homes	City of San Marcos	Construction of 57 multi-family units on 3.71 acres	Building permit being processed
California All Stars	City of San Marcos	Industrial Site Development Plan for 19,305-square-foot building and 8,832-square-foot building	Approved
Cornerstone Communities	City of San Marcos	46-unit condominium development on 8.6 acres	Planning application being processed
OnPoint Meyers Avenue	City of Escondido	Approximately 68,900-square-foot industrial building	Under review
Solaris Business Park	City of Escondido	45 acres light-industrial and medical office complex	Under review

Name	Jurisdiction	Proposed Uses	Status
Goal Line BP	City of Escondido	Construction of a battery-storage facility, including Zoning Map Amendment to rezone property from Planned Development, Industrial (PD-I) to Light Industrial (M-2)	Under review

Source: City of San Marcos *Major Development Projects*, April 2025; City of Escondido *Major Development Activity*, April 2023

2.1.1.2 Environmental Consequences

NO BUILD ALTERNATIVE

The projects described in Table 2-2 would occur with the No Build Alternative. The No Build Alternative would not impact existing land uses or access to parcels in the project area. The No Build Alternative would maintain the current configuration of the I-15/SR 78 connector. Under the No Build Alternative, the project would not be constructed, and no temporary or permanent impacts to existing land use would occur.

BUILD ALTERNATIVE

The Build Alternative would serve the existing urbanized area and would not involve the development of any undeveloped land. The proposed improvements of the I-15/SR 78 connector; addition of managed lanes on SR 78; off-system improvements along Barham Drive, Rancheros Drive, and the Woodland Parkway undercrossing; and providing multiuse bicycle and pedestrian facilities would reduce congestion and promote alternative transportation options in the area and would not preclude any specific land uses.

The Build Alternative would not alter land use designations in the area or result in land use conflicts by facilitating new growth or development in previously unanticipated areas. The Build Alternative would not preclude development of any of the proposed or ongoing projects shown above in Table 2-2. While some of the project development activities in Table 2-2 would occur in similar areas as the Build Alternative, coordination with the appropriate agencies would ensure construction timelines are not in conflict and potential utility conflicts are avoided.

Potential non-residential property acquisitions and displacements for the Build Alternative are described in Section 2.1.6, Relocations and Real Property Acquisition. According to *Relocation Impact Statement* (2021, updated 2025) the project would require full acquisition and displacement of a City of San Marcos-owned bungalow/storage structure located on Barham Drive. Displacement of parking spaces would occur at three parcels. Two of these parcels are located along Rancheros Drive and the westbound SR 78 on-ramp. At one of the parcels, 11 parking spaces would be displaced, and seven spaces would be replaced for a net loss of four spaces. Eight parking spaces would be displaced at the other Rancheros Drive parcel, and four spaces would be replaced for net loss of four spaces. At Grace International Church on Barham Drive, 71 parking spaces would be impacted; 59 spaces would be replaced, for

a net loss of 12 parking spaces. No Americans with Disabilities Act (ADA) parking spaces would be impacted.

Acquisition of the parking spaces would change the land use for the portion of the property acquired, while the remaining portion of the property would retain its existing use.

The conversion of a commercial land use for transportation use as a result of the full and partial acquisitions of these parcels would not change the overall land use patterns in the area or influence or inhibit future land use development in the area. The I-15/SR 78 Interchange and SR 78 corridor would continue to function as a major transportation connector and corridor surrounded by the same land uses as currently exist. No land would be reclassified or rezoned from housing or residential uses by the project, and the supply of residential units in the cities of San Marcos and Escondido would be unaffected.

Permanent indirect impacts to land use patterns, such as changes to regional development and growth-related changes are not anticipated with implementation of the Build Alternative. The Build Alternative would not remove large tracts of land available for future development nor result in major land use changes; therefore, it would have a negligible effect on regional development patterns. Potential growth-related changes are discussed in Section 2.1.4, Growth.

Temporary Impacts

It is anticipated that construction of the project would require Temporary Construction Easements (TCEs), for construction staging, material and equipment storage, and detours necessary during some periods of construction such as ramp removal and bridge work. Properties used as TCEs would maintain their existing land use during and after project construction.

In addition, access to businesses along local streets such as Twin Oaks Valley Road, Rancheros Drive, Barham Drive, Mission Drive and Nordhal Road in the project area may be temporarily restricted or modified during construction due to TCEs. Access to businesses would be maintained at all times during construction, consistent with Section 7-1.03, Public Convenience of Caltrans' Standard Specifications (2018). Temporary impacts to access and circulation are discussed in further detail in Section 2.1.8, Traffic, Transportation/Pedestrian and Bicycle Facilities below.

2.1.1.3 Avoidance, Minimization, and/or Mitigation Measures

The full and partial acquisitions would result in changes in land use and would require compensation as part of the ROW phase of the project. The measures identified in Section 2.1.6, Relocation and Real Property- Acquisition, Avoidance, Minimization, and/or Mitigation Measures, also apply. The measures identified in Section 2.1.8, Traffic, Transportation/Pedestrian and Bicycle Facilities also apply as they pertain to TCEs. Additional avoidance, mitigation, and minimization measures are not required.

2.1.2 CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS AND PROGRAMS

The information in this section is based on *Community Impact Assessment*, prepared for the project (AECOM 2025).

The project's consistency with the following types of plans was considered and is discussed in the following subsections: Transportation Plans/Programs, Regional Growth Plans, General and Master Plans, and Specific Plans below.

2.1.2.1 Affected Environment

There are several community, regional, and transportation plans that include the project area. The following types of plans were considered and are discussed below:

- Transportation Plans (Regional Transportation Plans/Metropolitan Transportation Plans [RTPs/MTPs]) and Regional Transportation Improvement Programs/Metropolitan Transportation Improvement Programs (RTIPs/MTIPs);
- Regional Growth Plans (if proposed or adopted);
- Habitat Conservation Plans or similar regional conservation plans;
- General, Community, and Airport Plans; and
- Climate Change Plans.

Transportation Plans/Programs

SANDAG 2050 Regional Transportation Plan

The SANDAG 2050 RTP provides a plan for investing an estimated \$214 billion (United States dollars [\$]) in local, state, and federal transportation funds expected to be allocated to the region over the next 40 years. The 2050 RTP is the blueprint for a regional transportation system that further enhances quality of life, promotes sustainability, and offers more mobility options for people and goods. The plan outlines projects for transit, rail and bus service, express or managed lanes, highways, local streets, bicycling, and walking to provide an integrated, multi-modal transportation system by mid-century. Pursuant to Senate Bill (SB) 375, the 2050 RTP also includes the Sustainable Communities Strategy (SCS), which details how the region would reduce GHG emissions to state-mandated levels over time. The 2050 RTP and SCS are components of San Diego Forward: The Regional Plan, which was adopted by the SANDAG Board of Directors on October 9, 2015.

RTPs are developed to provide a clear vision of the regional transportation goals, objectives, and strategies. In addition, RTPs must reflect SB 375 (Steinberg, Statutes of 2008), which targets regional GHG emissions reductions from passenger vehicles and light-duty trucks through changes in land use and transportation development patterns.

The responsible Regional Transportation Planning Agency in Southern California is SANDAG. Therefore, SANDAG is required to adopt and submit an updated RTP to the California Transportation Commission and Caltrans every 4 or 5 years, depending on the air quality attainment in the region. SANDAG, in partnership with local governments, is required by federal law to create an RTP that determines the needs of the transportation system and prioritizes proposed transportation projects.

SANDAG North County Comprehensive Multimodal Corridor Plan

The North County Comprehensive Multimodal Corridor Plan (CMCP) is a data-driven plan to reduce vehicle miles traveled (VMT) and GHG emissions, generate transportation choices, and preserve community character. The North County CMCP includes San Diego County and major North County cities including the cities of Escondido and San Marcos. The North County CMCP analyzes integrated transportation solutions that enhance the way people travel throughout North County to create a comprehensive set of safe, sustainable, and equitable transportation solutions that are tailored to the needs of North County users, promote community vitality, and improve quality of life for all. Under the CMCP, current and future travel demands and conditions are evaluated and analyzed with the data used to provide expanded travel choices for residents, commuters, visitors, and goods movement.

Regional Growth Plans

SANDAG 2021 Regional Plan

Adopted on December 10, 2021, the SANDAG 2021 Regional Plan is the long-term guidance for the San Diego region to address regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources through 2050.

Transportation is the largest source of GHG emissions, State mandates require SANDAG to develop the 2021 Regional Plan with solutions to reduce GHG emissions by developing a transportation system for reducing emissions from passenger vehicles and light trucks by 2030.

As part of the mandated reduction in GHG emissions, the 2021 Regional Plan provides a vision for transportation in San Diego County that reimagines how people and goods could move through the region. This vision is shaped by five key strategies: Complete Corridors, Transit Leap, Mobility Hubs, Flexible Fleets, and Next OS digital platform. New investments in the regional transportation network would enhance connectivity, increase safety and sustainability, and improve the lives of millions of people.

The Complete Corridors component proposes a regional network of major roads and highways intertwining with adopted regional bicycle networks to create seamless connections within communities and across jurisdictions. A key feature of the Complete Corridors component is Managed Lanes, which offer priority access to people using transit, carpooling, or vanpooling. People driving alone can access these lanes for a fee.

When paired with technology, managed lanes can help move more people, reduce traffic congestion, and increase ridership.

Upon adoption, the 2021 Regional Plan became the region's current long-term plan and was used for short-term programming of priority projects under the SANDAG RTIP. The 2021 Regional Plan includes a proposed "phasing plan" for implementing the various projects, programs, and policies over time. The phasing plan is used to measure the Regional Plan's achievement of state and federal requirements by certain benchmark years.

SANDAG Draft 2025 Regional Plan

Every 4 years, SANDAG researches, prepares, and updates the Regional Plan to guide how they will help people and goods move throughout the region. SANDAG does this by collecting feedback from the public, studying data about where people frequently go in the region, and analyzing forecasts about how the region will grow and change over the next few decades. They also work closely with local, state, and federal government agencies and community-based organizations to integrate this vision. The goal of the Draft 2025 Regional Plan is to make transportation more convenient, reliable, equitable, healthy, and safe for everyone. This means planning solutions to help facilitate mobility in the next few years, while also preparing for bigger longer-term transportation projects in the future. In 2023, SANDAG gathered public input from thousands of people across the region about their transportation needs. This input, along with feedback from the SANDAG Board, policy advisory committees, partner agencies, and community partners will help to shape the projects, programs, and policies SANDAG is proposing for the Draft 2025 Regional Plan.

SANDAG staff has prepared an Initial Concept Draft 2025 Regional Plan. Between 2023 and 2024, the draft plan has undergone a housing policy forum and two public scoping meetings for the 2025 Draft Regional Plan EIR.

General and Master Plans

San Diego County General Plan

The San Diego County General Plan is a comprehensive, long-range statement of policies for the development and preservation of San Diego County, which was adopted by the San Diego County Board of Supervisors on August 3, 2011. The General Plan is a statement of community priorities and values to be used to guide public decision-making in future years and is a compilation of goals, objectives, policies, and actions designed to manage change in San Diego County. The General Plan is designed to work in concert with the more detailed specific plans to each city, such as the City of Escondido General Plan and the City of San Marcos General Plan. The San Diego County General Plan's goals are implemented through decisions and actions consistent with the objectives, policies, and actions of each of the seven General Plan Elements. The elements of the General Plan constitute the framework for decision-making

regarding growth and development in San Diego County and contain goals and policies that are pertinent to the proposed project.

City of Escondido General Plan

The City of Escondido General Plan addresses a multitude of land use-related issues and is designed to provide policy guidance for the next 20 years and beyond. The most recent complete update of the City of Escondido General Plan was adopted by the City Council on May 23, 2012. The General Plan is a statement of community priorities and values to be used to guide public decision making in future years and is a compilation of goals, objectives, policies, and actions designed to manage change within the City of Escondido. The General Plan's goals are implemented through decisions and actions consistent with the objectives, policies, and actions of each of the 10 General Plan Elements. The elements of the General Plan constitute the framework for decision-making regarding growth and development in the City of Escondido and contain goals and policies that are pertinent to the proposed project.

City of Escondido Bicycle Master Plan

The City of Escondido Bicycle Master Plan was adopted by the City Council in 2012 and identifies existing circulation patterns for bicyclists, problem areas and safety concerns, and develops a master system to further the implementation of bikeways throughout Escondido. The Bicycle Master Plan includes Caltrans bikeway standards, conceptual designs for bicycle paths and trails, maps of existing and proposed bicycle facilities, a phasing plan for improvements, funding sources, and an implementation plan. The Master Plan identifies a bicycle facility network, both on the road (Class II and III) and off-road (Class I). Upon full implementation, the Master Plan would create a comprehensive network of bicycle lanes, routes, and paths.

City of San Marcos General Plan

The City of San Marcos General Plan also addresses a multitude of land use-related issues and is designed to provide policy guidance for the next 20 years and beyond. The most recent complete update of the City of San Marcos General Plan was adopted by the City Council on February 14, 2012. The General Plan is a statement of community priorities and values to be used to guide public decision making in future years and is a compilation of goals, objectives, policies, and actions designed to manage change in the City of San Marcos. The General Plan's goals are implemented through decisions and actions consistent with the objectives, policies, and actions of each of the eight General Plan Elements. The elements of the General Plan constitute the framework for decision-making regarding growth and development in the City of San Marcos and contain goals and policies that are pertinent to the proposed project.

City of San Marcos Bikeway Master Plan

The 2015 Bikeway Master Plan is an update to the original master plan adopted by the City of San Marcos in 2001. Goals of the master plan are to obtain State Bicycle Transportation Account grant funds and improve bicycle facilities throughout the city for

safer routes to school, connections to adjacent cities and incorporate an environmental inventory analysis, as well as connect the city's trails to bicycle facilities to complete a safe and enjoyable trail and bikeway system.

Specific Plans

Specific plans contain development standards, infrastructure requirements, and implementation measures for the development of a specific geographic area. California Planning and Zoning Law Section 65450 stipulates that cities may prepare specific plans for the systematic implementation of the general plan for all or part of the area covered by the general plan. The following Specific Plans apply to the project area.

City of San Marcos Heart of the City Specific Plan

The *Heart of the City* specific plan covers 1,331 acres in the geographic center of the City of San Marcos. Major east-west access through the area is provided by SR 78, Barham Drive, San Marcos Boulevard, and Mission Road. North-south access is provided by Twin Oaks Valley Road. The objectives of this specific plan include: improve the regional image of San Marcos, establish an urban core and concentration of land uses with the emphasis on pedestrian movement and mass transit, provide for an expanded employment base, encourage mass transit alternatives, and foster innovative solutions to accommodate the increasing number of trips generated by the city and region's growth.

City of San Marcos University District Specific Plan

The University District Specific Plan was adopted in November 2009, and subsequently administratively and formally amended over the years; the most recent formal amendment occurred in July 2022. The original plan provided the framework for approximately 1,500 acres in the core area of the City of San Marcos to accommodate a full range of civic, commercial, business park, office, residential, and institutional land uses, including the California State University San Marcos campus. The University District Specific Plan serves to update the *Heart of the City* Specific Plan, expanding the city's original vision of creating an authentic downtown center.

The University District is between SR 78 and Barham Drive and encompasses the eastern and western sides of Twin Oaks Valley Road, west to South Bent Avenue and east to just beyond Industrial Street.

2.1.2.2 Environmental Consequences

An evaluation of the proposed project's consistency with the related plans and policies is presented in Table 2-3.

Table 2-3: Consistency with State, Regional, and Local Plans and Programs

Policy	Build Alternative	No Build Alternative
SANDAG 2050 RTP		
Mobility		
Mobility Goal. The transportation system should provide the public and those persons who move goods with convenient travel options. The system also should operate in a way that maximizes productivity. It should reduce the time it takes to travel and the costs associated with travel.	Consistent. The Build Alternative would relieve existing and future traffic congestion in a way that is convenient and maximizes productivity. The Build Alternative would also improve the time it takes to travel.	Not Consistent. The No Build Alternative would not reduce congestion, causing delays, increased travel time, and higher costs associated with travel.
Mobility Policy Objective 1: Tailor transportation improvements to better connect people with jobs and activities.	Consistent: The Build Alternative would increase the capacity of the I-15/SR 78 Interchange, as well as modify existing roadways and on- and off-ramps to improve circulation. The capacity increase and roadway modifications would allow for better traffic flow, reducing delay and allowing better connectivity between people, jobs, and other activities. The implementation of a bicycle facility on Barham Drive and Woodland Parkway would also increase connectivity in the region for cyclists.	Not Consistent: The No Build Alternative would not increase the capacity the I-15/SR 78 Interchange or modify existing roadways. People using I-15, SR 78, and local roadways would experience longer delays, increased travel times, and higher costs associated with travel.
Mobility Policy Objective 2: Provide convenient travel choices including transit, intercity and high-speed trains, driving, ridesharing, walking, and biking	Consistent: The Build Alternative would create Express Lanes or HOV/Carpool Lanes that would provide convenient travel choices for ridesharing. In addition, the proposed bicycle facility on Barham Drive and Woodland Parkway would provide for more travel choices locally.	Not Consistent: Driving access, pedestrian access, and bike access currently exist on most local roadways, but existing facilities do not encourage a modal shift, nor reduce congestion, travel times, air pollution and GHG emissions.
Reliability		
Reliability Goal. The transportation system should be reliable. Travelers should expect relatively consistent travel times, from day to day, for the same trip and mode of transportation.	Consistent. The Build Alternative would create Express Lanes or HOV/Carpool Lanes at the I-15/SR 78 Interchange, which would reduce delay, and improve the reliability of the transportation system.	Not Consistent. The No Build Alternative would not reduce congestion at the I-15/SR 78 Interchange and local roadways which would cause inconsistency with travel times.
Reliability Policy Objective 2. Manage the efficiency of the transportation system to improve traffic flow.	Consistent. The Build Alternative would create Express Lanes or HOV/Carpool Lanes at the I-5/SR 78 Interchange and would reduce delay, which would improve traffic flow.	Not Consistent. The No Build Alternative would not reduce delay, further impeding traffic flow.

Policy	Build Alternative	No Build Alternative
System Preservation and Safety		
System Preservation and Safety Goal. The transportation system should be well maintained to protect the public's investments in transportation. It also is critical to ensure a safe regional transportation system.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, thus improving the transportation system. In addition, local on- and off-ramps, Barham Drive, Woodland Parkway, and Rancheros Drive are in need of improvements, which the Build Alternative would provide.	Not Consistent. The No Build Alternative proposes no improvements to the I-15/SR 78 Interchange, which would result in deterioration of the roadways and bike facilities.
System Preservation and Safety Objective 1. Keep the region's transportation system in a good state of repair.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, thus improving the transportation system. In addition, local on- and off-ramps, Barham Drive, Woodland Parkway, and Rancheros Drive are in need of improvements, which the Build Alternative would provide.	Not Consistent. The No Build Alternative proposes no improvements to the I-15/SR 78 Interchange, which would result in deterioration of the roadways and bicycle facilities.
System Preservation and Safety Objective 2. Reduce bottlenecks and increase safety by improving operations.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps, and local roadways, which would reduce delay and bottlenecks, as well as increase safety by improving operations.	Not Consistent. The No Build Alternative would not reduce congestion at the I-15/SR 78 Interchange and local roadways, resulting in bottlenecks and decreased safety.
Healthy Environment		
Healthy Environment Goal. The transportation system should promote environmental sustainability and foster efficient development patterns that optimize travel and housing.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps, and local roadways, which would reduce delay and optimize travel to jobs and local residences near the proposed project. The major usage of the I-15/SR 78 Interchange involves transportation to and from work during the AM and PM peak periods. Improvements would decrease congestion at the I-15/SR 78 Interchange and local roadways during these times, allowing an improved commute for local residents.	Not Consistent. The No Build Alternative would not reduce congestion at the I-15/SR 78 Interchange and local roadways. Users of the interchange would experience longer delays, increased travel times, and higher costs associated with travel.

Policy	Build Alternative	No Build Alternative
Healthy Environment Policy 1. Develop transportation improvements that respect and enhance the environment.	Consistent. The Build Alternative would improve connectivity and traffic flow between the two corridors to increase access to homes and jobs. This alternative would reduce congestion and travel time, while improving safety and air quality. Improvements also include construction of a bicycle facility.	Not Consistent. The No Build Alternative would not offer transportation improvements. Increased congestion would result in adverse air quality impacts at the I-15/SR 78 Interchange and local roadways.
Healthy Environment Policy 2. Reduce GHG emissions from vehicles and continue to improve air quality in the region.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps and local roadways, which would improve the flow of traffic. Improved traffic flow would increase the average vehicle miles per gallon, which would reduce the amount of GHG emission. In addition, the Build Alternative would include proposed bicycle lane improvements, which would encourage use of nonmotorized vehicles, further reducing GHG emissions.	Not Consistent. The No Build Alternative would not offer transportation improvements. Increased congestion would result in adverse air quality impacts at the I-15/SR 78 Interchange and on local roadways.
<i>SANDAG North County Comprehensive Multimodal Corridor Plan</i>		
Provides sustainable solutions leading to the reduction of VMT.	Consistent. The Build Alternative would increase person-throughput on the corridor by increasing vehicle occupancy through carpooling, vanpooling, or transit.	Not Consistent. The No Build Alternative would maintain the current interchange and lane configuration which do not increase person-throughput.
Improves safety for all users of the transportation system.	Consistent. The Build Alternative would reduce congestion on the corridor, thereby improving safety for users.	Not Consistent. The No Build Alternative would maintain the current interchange and lane configurations which do not support future growth. Congestion on the corridor would continue to increase, making it less safe for users.
Connects North County communities	Consistent. The Build Alternative would improve regional connectivity by reducing congestion and travel times.	Consistent. The No Build Alternative would maintain the existing configuration of the interchange and corridor which provide connections to other North County communities.

Policy	Build Alternative	No Build Alternative
SANDAG 2021 Regional Plan		
Fast: The efficient movement of people and goods	Consistent. The Build Alternative would reduce congestion at the interchange along the corridor, and on adjacent arterials improving efficiency by reducing travel times.	Not Consistent. The No Build Alternative would maintain the existing roadway configuration, and no improvements would be made on adjacent arterials, ramps, or bicycle facilities. Congestion on these facilities would continue and would increase with future regional and local growth.
Fair: Access to affordable, reliable, and safe mobility options for everyone.	Consistent. The Build Alternative would provide options for people-throughput through Managed Lanes, bicycle facility improvements, and improved access to transit. These options improve affordability and safety.	Not Consistent. The No Build Alternative would maintain the existing roadway configuration. No improvements would be made on the adjacent arterials, ramps, or bicycle facilities which do not support affordable, reliable, and safe mobility options.
Clean: Healthier air and reduced GHG emissions regionwide.	Consistent. The Build Alternative includes Managed Lanes which improve congestion by reducing idling time resulting in less GHG emissions which improves air quality locally and contributes to cleaner air regionally.	Not Consistent. The No Build Alternative would maintain the existing roadway configurations. Congestion on the existing facilities would continue and would increase with future regional and local growth contributing to increased GHG emissions and worsening air quality locally and regionally.
San Diego County General Plan		
Mobility Element		
Goal M-1. A safe and efficient road network that balances regional travel needs with the travel requirements and preferences of local communities.	Consistent. The Build Alternative would make minor modifications to local roadways, on- and off-ramps, and at the I-15/SR 78 Interchange by adding a new direct connector. The Build Alternative would also construct a bicycle facility on Barham Drive between La Moree Road and Woodland Parkway. These modifications would create reliable transportation options that reduce travel times for local communities.	Not Consistent. The No Build Alternative would not modify the road network, which would create future delays and congestion in the region and on the local communities.

Policy	Build Alternative	No Build Alternative
Policy M-1.2. Interconnected Road Network. Provide an interconnected public road network with multiple connections that improve efficiency by incorporating shorter routes between trip origin and destination, disperse traffic, reduce traffic congestion in specific areas, and provide both primary and secondary access/egress routes that support emergency services during fire and other emergencies.	Consistent. The Build Alternative would construct a direct connector at the I-15/SR 78 Interchange, which would allow for multi-occupant vehicle usage, and would reduce traffic congestion at the I-15/SR 78 Interchange, on- and off-ramps, and local streets in the cities of San Marcos and Escondido. Local roadways would also be widened and realigned, which would improve emergency access during fire and other emergencies.	Not Consistent. The No Build Alternative would not construct a direct connector at the I-15/SR 78 Interchange. People using the Interchange would experience longer delays and increased travel time. Congestion would obstruct access for emergency services.
Policy M-4.A. Accommodate Emergency Vehicles. Design and construct public and private roads to allow for necessary access for appropriately sized fire apparatus and emergency vehicles while accommodating outgoing vehicles from evacuating residents.	Consistent. The Build Alternative would construct public roads that would allow for necessary access for emergency vehicles. Construction of a direct connector at the I-15/SR 78 Interchange along with modifications to local roadways and on- and off-ramps would improve access of emergency vehicles in the area.	Not Consistent. The No Build Alternative would not construct a direct connector at the I-15/SR 78 Interchange. Motorists using the interchange would experience increased delays and travel times, as well as obstructing access for emergency services.
Policy M-4.5. Context Sensitive Road Design. Design and construct roads that are compatible with the local terrain and the uses, scale, and pattern of the surrounding development. Provide wildlife crossings in road design and construction where they would minimize impacts on wildlife corridors.	Consistent. Roads designed and constructed under the Build Alternative would be compatible with the local terrain and the uses, scale, and pattern of the surrounding development. The current use of the project area is transportation and would remain so with the implementation of future development.	Consistent. The No Build Alternative would be compatible with local terrain and the uses, scale, and pattern of the surrounding development.
Conservation and Open Space Element		
Policy COS-14.10. Low-Emission Construction Vehicles and Equipment. Require county contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.	Consistent. The Build Alternative would use low-emissions construction vehicles and equipment.	Consistent. No improvements are proposed. Therefore, no construction equipment or vehicles would be utilized.
Policy COS-17.2. Construction and Demolition Waste. Require recycling, reduction, and reuse of construction and demolition debris.	Consistent. The Build Alternative would recycle, reduce, and reuse construction and demolition debris to the fullest extent possible.	Consistent. No improvements are proposed; therefore, no construction debris would be created.

Policy	Build Alternative	No Build Alternative
Noise Element		
Goal N-4. Transportation-Related Noise Generators. A noise environment that reduces noise generated from traffic, railroads, and airports to the extent feasible.	Consistent. The Build Alternative would be fully compliant with Caltrans and FHWA noise requirements, and local noise ordinances during construction and operations.	Consistent. Under the No Build Alternative, the Interchange would be compliant with Caltrans, FHWA, and local noise requirements.
Policy N-4.6. Road Improvement Projects. For county road improvement projects, evaluate the proposed project against ambient noise levels to determine whether the project would increase ambient noise levels by more than 3 decibels. If so, apply the limits in the noise standards listed in Table N-2 for noise sensitive land uses that may be affected by the increased noise levels. For federally funded roadway construction projects, use the limits in the applicable FHWA Standards.	Consistent. A Noise Study was prepared for the proposed project that analyzed potential increases in ambient noise levels using FHWA prescribed methodology. The Build Alternative would be fully compliant with Caltrans and FHWA standards.	Consistent. No road improvements are proposed.
City of Escondido General Plan		
Mobility and Infrastructure Element		
Goal 1. An accessible, safe, convenient, and integrated multi-modal network that connects all users and moves goods and people in the community and region efficiently.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps, and local roadways, which would increase safety by improving operations, reducing delays, and resulting in benefits to the community and region.	Not Consistent. The No Build Alternative would not reduce delays or congestion at the I-15/SR 78 Interchange and local roadways. Users of the Interchange would experience longer delays, reduced safety due to poor operations, and reduced transportation efficiency.
Complete Streets Policy 2.1. Ensure that the existing and future transportation system is interconnected and serves multiple modes of travel, such as walking, biking, transit, and driving for safe and convenient travel.	Consistent. The Build Alternative would create Express Lane or HOV/Carpool Lanes that would provide safe and convenient travel choices for ridesharing and driving. In addition, the proposed bicycle facility would provide for more convenient and safe travel choices locally.	Not Consistent. Although vehicle access, pedestrian access, and bike access currently exist at the I-15/SR 78 Interchange and local roadways, existing conditions do not provide safe and convenient travel.
Complete Streets Policy 2.4. Evaluate access, safety, and convenience of various transportation modes for every project involving the following eight user groups: pedestrians, children, disabled individuals, seniors, bicyclists, transit riders, motorists, and goods and services.	Consistent. The Build Alternative would create Express Lane or HOV/Carpool Lanes that would improve ridesharing and driving for each user group. In addition, the proposed bicycle facility would provide for more convenient travel choices for bicyclists.	Not Consistent. Existing conditions on the I-15/SR 78 Interchange and surrounding roadways do not enhance access, safety, and convenience.

Policy	Build Alternative	No Build Alternative
Resource Conservation Element		
Air Quality and Climate Protection Policy 7.2. Reduce regional GHG emissions through the following measures including but not limited to: a) Implementing land use patterns that reduce automobile dependence (e.g., compact, mixed-use, pedestrian, and transit-oriented development); b) Reducing the number of VMT through implementation of TDM programs, jobs-housing balance, and similar techniques; c) Supporting public transportation improvements; d) Encouraging the use of alternative modes of transportation by expanding public transit, bicycle, and pedestrian networks and facilities; e) Participating in the development of park-and-ride facilities; f) Maintaining and updating the city's traffic signal synchronization plan; g) Promoting local agriculture; h) promoting the use of drought tolerant landscaping; and i) Encouraging the use of non-polluting alternative energy systems.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps, and local roadways, which would improve the flow of traffic. Improved traffic flow would increase vehicle miles per gallon and reduce idling which would reduce GHG emissions. In addition, the Build Alternative would include proposed bicycle improvements, which would encourage the use of nonmotorized vehicles, further reducing GHG emissions.	Not Consistent. The No Build Alternative would not offer transportation improvements. Increased congestion would result in adverse air quality impacts at the I-15/SR 78 Interchange and along local roadways.
City of Escondido Bicycle Master Plan		
Bicycle Network policy B.3.3 Coordinate with adjacent jurisdictions to develop bicycle routes that provide connectivity between communities.	Consistent. The Build Alternative includes a new bicycle facility on Barham Drive between La Moree Road and Woodland Parkway. Although the new bicycle facility would be in the City of San Marcos, it would likely be used by residents and employees of the City of Escondido, thus benefiting adjacent communities by providing improved connectivity.	Not Consistent. Under the No Build Alternative, no improvements to the transportation system would occur, and no bicycle facility would be constructed on Barham Drive between La Moree Road and Woodland Parkway, thus not providing connectivity between communities.

Policy	Build Alternative	No Build Alternative
City of San Marcos General Plan		
Mobility Element		
Goal 1. Provide a comprehensive multi-modal circulation system that serves the city land uses and provides for the safe and effective movement of people and goods.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps, and local roadways, which would increase safety by improving operations, reducing delay, and resulting in benefits to the community and region.	Not Consistent. The No Build Alternative would not reduce delays and congestion at the I-15/SR 78 Interchange and local roadways. Users of the Interchange and local roadways would experience longer delays, reduced safety due to poor operations, and reduced transportation efficiency.
Policy M-1.2. Require new development to finance and construct internal adjacent roadway circulation and city-wide improvements as necessary to mitigate project impacts, including roadway transit, pedestrian, and bicycle facilities.	Consistent. The Build Alternative would include improvements to Barham Drive, Woodland Parkway, and Rancheros Drive to improve local roadway circulation. In addition, the Build Alternative would construct a bicycle facility on Barham Drive between La Moree Road and Woodland Parkway, which would provide for more convenient local travel choices.	Consistent. The No Build Alternative would not include new development.
Policy M-1.3. Require new developments to prepare and implement TDM programs to minimize vehicle trip generation and promote alternative modes of travel in the city.	Consistent. The Build Alternative would include an Express Lane or HOV/Carpool Lanes at the I-15/SR 78 Interchange, which would allow for multi-occupant vehicle usage to reduce vehicle trip generation. In addition, the Build Alternative would construct a bicycle facility on Barham Drive and Woodland Parkway, which would promote alternative modes of travel in the city.	Not Consistent. The No Build Alternative would not reduce vehicle trip generation at the I-15/SR 78 Interchange and along local roadways and would not promote alternative modes of travel in the city.
Goal 2. Protect neighborhoods by improving safety for all modes of travel and calming traffic where appropriate.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps, and local roadways, which would reduce delay and congestion for local neighborhoods, as well as increase safety by improving operations.	Not Consistent. The No Build Alternative would not improve safety for all modes of travel nor include traffic calming where appropriate.

Policy	Build Alternative	No Build Alternative
Policy M-2.1. Work with new development to design roadways that minimize traffic volumes and/or speed, as appropriate in residential neighborhoods while maintaining the city's desire to provide connectivity on the roadway network.	Consistent. The Build Alternative would include improvements to local on- and off-ramps, Barham Drive, Woodland Parkway, and Rancheros Drive to reduce congestion in local residential neighborhoods. In addition, the local roadway improvements and addition of a bicycle facility on Woodland Parkway would provide further connectivity on the roadway network.	Consistent. The No Build Alternative would not include new development and, therefore, would not minimize traffic volumes and/or speed, nor provide enhanced connectivity on the roadway network.
Goal 3. Promote and encourage use of alternative transportation modes, including transit, bicycles, neighborhood electric vehicles (NEVs) and walking, in the city.	Consistent. The Build Alternative would construct a bicycle facility on Barham Drive and Woodland Parkway, which would promote and encourage alternative transportation modes in the city.	Not Consistent. The No Build Alternative would not construct a bicycle facility, which would not encourage use of alternative transportation modes.
Policy M-3.1. Develop an integrated multi-modal circulation system that accommodates transit, bicycles, pedestrians, and vehicles; provides opportunities to reduce air pollution and GHG emissions; and reinforces the role of the street as a public space that unites the city.	Consistent. The Build Alternative would improve the existing conditions of the I-15/SR 78 Interchange, on- and off-ramps, and local roadways, which would improve traffic flow. Improved traffic flow would reduce vehicle idling, reducing air pollution and GHG emissions. In addition, the Build Alternative include bicycle improvements, which would encourage the use of nonmotorized vehicles improving accessibility, thereby reinforcing the role of the street as a public space and further reducing GHG emissions.	Not Consistent. The No Build Alternative would not offer transportation improvements. Continuing and worsening congestion would result in more GHG emissions and worsening air quality. Further, the No Build Alternative would not support the development of a multi-modal circulation system.
Goal 5. Provide for the safe and efficient movement of goods throughout the city.	Consistent. The Build Alternative would relieve existing and future traffic congestion and improve safety and efficiency of goods movement throughout the city.	Not Consistent. The No Build Alternative would not reduce congestion, resulting in reduced safety and efficiency of goods movements throughout the city.

Policy	Build Alternative	No Build Alternative
Noise Element		
Policy N-2.4. Encourage the installation, maintenance, and renovation of freeway and highway ROW buffers and soundwalls through continued cooperation with Caltrans and SANDAG.	Consistent. The Build Alternative would include all Caltrans and SANDAG requirements for highway ROW and soundwalls, including installation, maintenance, and renovation.	Not Consistent. Under the No Build Alternative, no improvements would occur, including the installation and renovation of freeway and highway ROW buffers and soundwalls. As traffic volumes and congestion continue to increase, the Interchange would not be compliant with Caltrans, SANDAG, and local noise requirements.
City of San Marcos Bicycle and Pedestrian Master Plan		
Policy M-1.7. Strive to ensure that streets in the City of San Marcos shall be complete streets where feasible, thereby providing accessibility, safety, connectivity, and comfort for all modes and users of the system. Appropriate new local streets and Main Streets would prioritize pedestrian and bicycle users through the corridor. Evaluate existing local streets and Main Streets for their potential to prioritize pedestrian and bicycle users through the corridor.	Consistent. The Build Alternative includes development of a bicycle facility on Barham Drive between La Moree Road and Woodland Parkway.	Not Consistent. The No Build Alternative would not offer any transportation improvements and would not contribute to the development of a complete streets system.
Policy M-1.9. Continue to work with new development, local agencies, and regional agencies to implement addition low-stress connections across existing barriers (e.g., freeways, major roadways, and creeks) for bicycles and pedestrians.	Consistent. The Build Alternative includes development of a bicycle facility on Barham Drive between La Moree Road and Woodland Parks which helps provide low-stress connections across existing barriers.	Not Consistent. Under the No Build Alternative, no project improvements would be constructed, including the bicycle facility on Barham Drive between La Moree Road and Woodland Parkway.
City of San Marcos Heart of the City Specific Plan		
Objective: Encourage mass transit alternatives and foster innovated solutions to accommodate the increasing number of trips generated by the city's and region's growth.	Consistent. The Build Alternative would relieve existing and future traffic congestion and improve safety and efficiency movement throughout the city.	Not Consistent. Under the No Build Alternative, no project improvements would occur to accommodate an increasing number of trips due to local and regional growth.
City of San Marcos University District Specific Plan		
Circulation Goal: Develop a safe, convenient, and un-congested circulation system.	Consistent: The Build Alternative would improve highway operations while encouraging a mode shift to alternative transportation.	Not Consistent: The No Build Alternative does not accommodate future growth and would result in additional congestion on the local circulation system.

Policy	Build Alternative	No Build Alternative
Circulation Goal: Develop and manage a street and highway system which accommodates future growth while maintaining acceptable LOS.	Consistent. The Build Alternative would serve future growth to maintain acceptable LOS.	Not Consistent. The No Build Alternative maintains current conditions, which would not accommodate forecasted growth locally or in the region.
Alternative Transportation Modes Goal: Provides a multi-modal transportation system that encourages efficient use of existing and future facilities.	Consistent. The Build Alternative provide operational improvements including auxiliary lanes, bridge replacement/widening, ramp relocations, and street realignments to support forecasted growth. Improvements also include pedestrian and bicycle facilities to offer opportunities for alternative forms of transportation.	Not Consistent. The No Build Alternative maintains current conditions which would lead to further operational deficiencies and no opportunities for additional multi-modal transportation options.

Sources: SANDAG; San Diego County; City of Escondido; City of San Marcos

NO BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and on- and off-ramps. Under the No Build Alternative, no improvements would be constructed. As identified in Table 1-1, the No Build Alternative is inconsistent with various goals and policies of the regional and local plans. Some of the goals and policies that the No Build Alternative is inconsistent with include improving travel safety and reliability for people and goods, accommodating pedestrians and motorists, encouraging alternative modes of transportation, reducing congestion and associated GHG emissions, and improving safety. The No Build Alternative would not create a more efficient transportation system. Under the No Build Alternative, traffic conditions would continue to worsen at the I-15/SR 78 interchange and along SR 78. This continual degradation of the transportation network would result in increased air quality impacts, energy usage, and other negative externalities that are not consistent with the goals to improve mobility and sustainability.

BUILD ALTERNATIVE

The Build Alternative is included in, and consistent with, SANDAG's 2021 Regional Plan, Draft 2025 Regional Plan, RTP, and CMCP because it does not induce additional growth; rather, the Build Alternative includes roadway improvements along an existing transportation facility and is therefore consistent with SANDAG's goals and policies. The Build Alternative would also improve the efficiency of the current transportation system, subsequently leading to improved traffic flow, reduced congestion, and increased energy efficiency and safety. The project would support land use and growth patterns that facilitate use of multi-modal transportation, further contributing to a more sustainable community and region through transportation investments.

The Build Alternative is generally consistent with the city and county General Plans, including local Specific Plans, as described above. These plans anticipate growth in the region and project area and have adopted goals and policies to reduce congestion,

The Build Alternative would support continued economic vitality of the surrounding communities by improving conditions for the movement of goods and people. In addition, the Build Alternative would enhance public safety through improved driving conditions and enhanced environmental conditions through an improvement in traffic mobility and accessibility.

2.1.2.3 Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures for the proposed project to reduce impacts associated with the inconsistencies to regional and local plans have been identified for other resource areas. Minimization measures AES-1 through AES-47 from Section 2.1.9, Visual/Aesthetics, would reduce visual and aesthetic impacts that are inconsistent with regional and local plans.

2.1.3 PARKS AND RECREATIONAL FACILITIES

The information in this section is from the *Community Impact Assessment* (2025) and the *Relocation Impact Statement* (2021, updated 2025) prepared for this project. The project area for parks and recreational facilities includes those resources within a 0.5-mile radius of the project.

2.1.3.1 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.

2.1.3.2 Affected Environment

Table 2-4 details the parks in the City of San Marcos that are within 0.5 miles of the project. There are no City of Escondido nor San Diego County parks or recreational facilities within 0.5 miles of the project.

Table 2-4: Parks and Recreational Resources within Project Area

Park Name/Address	Current Ownership	Approximate Distance to Project	Facilities
Connors Park; 320 San Marcos Boulevard, San Marcos	City of San Marcos	0.20 miles	Adapted play equipment, full court basketball, lighted turf multi-purpose field, permanent restrooms, pickleball court, picnic shelter, picnic tables, play equipment, skate plaza, and lighted tennis courts
San Marcos Community Center; 3 Civic Center Drive, San Marcos	City of San Marcos	0.20 miles	Amphitheater, city facility, community building, permanent restrooms, play equipment, and trail connection
Corky Smith Gym; 274 Pico Avenue, San Marcos	City of San Marcos	0.37 miles	Basketball (full court), city facility, community building, permanent restrooms, pickleball court, and volleyball court
Sage Point Park; 201 Autumn Drive, San Marcos	City of San Marcos	0.40 miles	Picnic tables and play equipment
Buelow Park; 300 Autumn Drive, San Marcos	City of San Marcos	0.45 miles	Basketball (half-court), permanent restrooms, picnic shelter, picnic tables, play equipment, skate plaza, splash pad, trail connection, and turf play
Grace Park San Marcos	Private	0.05 miles	Turf play and picnic tables
San Marcos Senior Activity Center; 111 Richmar Avenue, San Marcos.	City of San Marcos	0.45 miles	City facility, community building, and permanent restrooms
Hollandia Park; 12 Mission Hills Court, San Marcos	City of San Marcos	0.50 miles	Amphitheater, lighted ballfield, BBQ, dog park, horseshoe court, lighted multi-purpose field, park, permanent restrooms, picnic shelter, play equipment, skate plaza, trail connection, and turf play
Alder Glen Tot Lot; 608 Shelly Drive, San Marcos	City of San Marcos	0.25 miles	Kiosk, permanent restrooms, play equipment, and trail connection
Knob Hill Park; 860 Avenida Ricardo, San Marcos	City of San Marcos	0.37 miles	Picnic shelter, picnic tables, play equipment, portable restrooms, and turf play
Montiel Park; 2290 Montiel Road, San Marcos	City of San Marcos	0.15 miles	Basketball (half-court), disc golf, dog park, kiosk, picnic tables, and portable restrooms

Source: Community Impact Assessment I-15/SR 78 Managed Lanes Project (2025)

Resources Evaluated Relative to the Requirements of Section 4(f) of the U.S. Department of Transportation Act of 1966.

Properties with No Section 4(f) Use

See Appendix A for the Section 4(f) de minimis discussion.

This section discusses recreational facilities found in or next to the project area that do not trigger Section 4(f) protection because either: 1) they are not publicly owned, 2) they are not open to the public, 3) the project does not permanently use the property, 4) the proximity impacts do not result in constructive use, or 5) other considerations.

According to FHWA, Section 4(f) applies to publicly owned, shared use or bike paths (or portions thereof) designated or functioning primarily for recreation. If the publicly owned shared use or bike path is primarily used for transportation and is an integral part of the local transportation system, the requirements of Section 4(f) do not apply because it is not a recreational use.

A section of the regional Inland Rail Trail, a Class I bikeway, extends for approximately 7 miles between the City of Escondido and the City of San Marcos. The trail passes underneath SR 78 near the intersection of East Mission Road and Rancheros Drive, and again at the SR 78/I-15 connector along West Washington Avenue near West Mission Road.

The Inland Rail Trail is included in SANDAG's *Riding to 2050 San Diego's Regional Bicycle Plan* (Plan). The Plan details an interconnected network of bicycle corridors to resolve multiple complex and interrelated issues including traffic congestion and connections between major regional connections. The Inland Rail Trail is located in the North County Transit District (NCTD) ROW and connects to five NCTD Sprinter Hybrid Rail stations within the cities of Escondido and San Marcos. The Inland Rail Trail is part of the local and regional transportation system; therefore, Section 4(f) does not apply.

2.1.3.3 Environmental Consequences

An evaluation of potential impacts to parks and recreational resources associated with each alternative is presented below.

NO BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and on- and off-ramps. Under the No Build Alternative, no improvements would be constructed, and no impacts to parks and recreational facilities would occur.

BUILD ALTERNATIVE

The Build Alternative would not permanently affect any recreation areas listed in Table 2-4. The closest parks are under 0.25 miles from the project. Construction activities

would take place along I-15, SR 78, Barham Drive, Woodland Parkway, and Ranchero Drive, which are access points to local parks; however, none of the park facilities in Table 2-4 are adjacent to where construction activities would occur. Traffic control would be implemented to ensure access for all modes along the freeways and arterials is maintained throughout. Construction would not result in temporary closure of any recreation facilities in the area. Construction would produce noise and dust typical of roadway construction; however, given that the study area is part of an existing freeway and existing arterials system, and that none of the park facilities are adjacent to these transportation facilities, temporary construction is unlikely to affect users of these facilities.

All of the properties listed in Table 2-4 are subject to the provisions of Section 4(f) of the Department of Transportation Act. The project proposes to make improvements in proximity to these properties but would not temporarily occupy or permanently alter any recreation facilities that meet the definition of a Section 4(f) resource. Therefore, no “use” of a Section 4(f) resource is anticipated as part of the proposed project.

Permanent Impacts

Although the Build Alternative would require acquisitions as described in section 2.1.6, Relocations and Real Property Acquisition, none of these parcels are parks or recreational facilities.

The proposed project would be constructed within Caltrans and local jurisdiction ROW and would not require permanent acquisition of any parks or recreational facilities. Implementation of the Build Alternative would not result in any permanent impacts to any of the parks or recreational facilities described in Table 2-4, nor would the Build Alternative result in a significant increase in the use of these facilities, nor necessitate the need for construction of new parks or recreational facilities.

Temporary Impacts

As described in Table 2-4 above, one park, Montiel Park, is 0.15 miles from the project, and two others are less than one-quarter mile, Conners Park and the San Marcos Community Center. While the Build Alternative would be constructed within Caltrans and local jurisdiction ROW, construction activities such as staging, and equipment storage may require temporary construction easements (TCEs). However, it is not anticipated that any of the parks and recreational facilities described above would be either fully or partially temporarily acquired for any TCEs.

These parks and recreational facilities are protected by the Park Preservation Act and Section 4(f) of the Department of Transportation Act of 1966. The Build Alternative would not result in any “direct and temporary use” of these facilities as defined by Section 4(f).

Street closures, detours, and slower travel times due to construction on local roadways for improvements along Rancheros Drive near the westbound on- and off-ramps, widening and realignment of Barham Drive between La Moree Road and Woodland

Parkway, widening of the Woodland Parkway undercrossing, and construction of a bike facility on Barham Drive/Woodland Parkway are not anticipated to inhibit existing recreational activities in the parks. Vehicle and pedestrian access to parks and recreational facilities would be maintained at all times during construction.

2.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

The following minimization measures were identified for the proposed project and would be implemented to reduce impacts to parks and recreational facilities. No additional avoidance, minimization, and/or mitigation measures are proposed.

PARK-1. Traffic Management Plan (TMP). During the duration of project construction, a TMP will be implemented to minimize the construction-related delays and inconvenience for travelers, residents, and businesses in the project area.

PARK-2. Construction Noise. To limit noise during nighttime construction, Caltrans would follow Standard Specifications Section 14-8.02 (Caltrans 2018b), which specifies that construction activities between 9 PM and 6 AM are not to exceed 86 dBA L_{max} at a distance of 50 feet from the project site.

PARK-3. Construction Noise in the City of San Marcos. Construction activities shall be limited to between the hours of 7 AM and 6 PM on Monday through Friday, and between 8 AM and 5 PM on Saturdays, as set forth in the City of San Marcos Municipal Code (17.08.080).

2.1.4 GROWTH

2.1.4.1 Regulatory Setting

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...*”

2.1.4.2 Affected Environment

This section discusses whether the proposed project improvements would result in unforeseen direct, indirect, or secondary growth, or would otherwise influence population growth. There are many factors that may affect the amount, location, and rate of growth in the region of a project. Such factors include:

- Market demand for housing, employment, and commercial services;
- Desirability of the climate and living or working environment;
- Strength of the local employment and commercial economy;
- Availability of other roadway improvements;
- Availability of other services and infrastructure (e.g., schools, water); and
- Land use and growth management policies of the local jurisdictions.

Factors affecting growth and its effects tend to be regional and specific in nature; therefore, this analysis presents information about the larger region (San Diego County and North County) and the jurisdictions associated with the project (the City of Escondido and the City of San Marcos).

The project region, as well as all of southern California, has experienced dramatic growth in the last 30 years, and this trend is expected to continue. According to SANDAG, between 1990 and 2020, the population of San Diego County increased 32%. According to the United States Census, during this same period, the population of the City of Escondido increased from approximately 109,000 to 151,000, or nearly 39%, while the population of the City of San Marcos increased from 39,000 to 95,000, an increase of nearly 144%.

SANDAG's 2021 RTP indicates that the population of San Diego County would increase by 40% between 2020 and 2050. During this same time frame, the population of the City of Escondido is expected to increase by 15.5%, while the population of the City of San Marcos is expected to increase by 27.6%. The population increases are supported by a projected regional job growth increase of 45% by 2050. The projected growth includes future approved developments as discussed in Section 2.1.1, Existing and Future Land Use. In addition, the growth in the number of people living and working in the project area presents challenges for the existing transportation network.

2.1.4.3 Environmental Consequences

No BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and associated ramps. Under the No Build Alternative, no improvements would be constructed. By not providing any improvements of the existing interchange and existing corridor, the No Build Alternative is inconsistent with the goals and objectives of the SANDAG RTP, and with the regional mobility goals of San Diego County, and the cities of Escondido and San Marcos. The regional and local planning documents anticipate and respond to projected growth. The No Build Alternative would have no influence on the level of growth with the cities of Escondido and San Marcos, as each city is predominantly built, and as discussed in Section 2.2.1, Land Use, there are limited areas available for development. In addition, because the No Build Alternative is making no changes to existing land use patterns or transportation infrastructure, it would not influence the amount, location, and/or distribution of growth in the cities of Escondido and San Marcos or the North County region. Existing congestion and traffic conditions would remain and would continue in the future under the No Build Alternative.

BUILD ALTERNATIVE

A screening was conducted to determine what influence construction of the Build Alternative might have on growth and development in the project area. This screening evaluated the following:

- The project's potential to change accessibility;
- How, if at all, the project type and location, as well as growth pressure, could influence growth in the area; and
- Whether resources of concern would be affected by project growth or land use change.

Potential Change to Accessibility

The Build Alternative proposes to improve the I-15/SR 78 interchange and 3 miles of SR 78 between SR 78 and San Marcos Boulevard with Managed Lanes, as well as provide improvement to ramps and adjacent arterials. These improvements would alleviate existing congestion and accommodate future traffic while improving mobility at the interchange and along the SR 78 corridor. Because I-15 and SR 78 are established north-south and east-west travel routes, respectively, in the region and the cities of Escondido and San Marcos, the Build Alternative are not anticipated to significantly alter travel patterns. The addition of Managed Lanes from the I-15 Interchange onto SR 78, and the addition of an auxiliary lane on SR 78 between Nordahl Road and Woodland Parkway/Barham Drive, would reduce congestion and improve traffic flow on the facility which in turn is anticipated to reduce congestion on local arterials used by travelers to avoid the congested freeway. Additional improvements along local arterials including relocation of the eastbound SR 78 ramp from Barham Drive, improvements along Rancheros Drive near the westbound SR 78 on- and off-ramps, widening of the Woodland Parkway undercrossing, widening and realigning Barham Drive between La Moree Road and Woodland Parkway, and construction of a bicycle facility on Barham Drive/Woodland Parkway would reduce freeway adjacent congestion. The proposed Build Alternative would not change or include access points to undeveloped land or provide new access to the area.

The Build Alternative is intended to facilitate improved connectivity at the I-15/SR 78 Interchange to the SR 78 and is not anticipated to accommodate additional traffic beyond what is currently projected with or without the project.

Project Factors' Influence on Growth

The Build Alternative is not a trip generator and would not influence growth. The proposed improvements would accommodate existing and future population and job growth identified in the regional and local plans including SANDAG's RCP, CMCP, San Diego County General Plan, and the general and specific plans of the cities of Escondido and San Marcos. The location, timing, and level of future growth in the area would depend on the availability of certain types of infrastructure/services (e.g., water, sanitary sewers, housing, and schools). Accommodating critical future infrastructure is addressed by individual jurisdictions and agencies providing these services to existing and future development, and their availability would affect the location, level, and timing of future development regardless of the proposed project. Because the proposed transportation improvements accommodate existing and planned future development,

the proposed project would not have the potential for stimulating the location, rate, timing, or amount of growth locally or regionally. Furthermore, because the project area and immediate vicinity is generally built-out, there are very few open areas available for new development.

In addition, the Build Alternative would not remove an impediment to growth because the proposed project would not provide an entirely new public facility; rather, the Build Alternative includes capacity improvements along an existing corridor to respond to expected traffic demand and to improve operations. The proposed project is a response to address the existing and future development trends locally and regionally. As discussed in Section 2.1.8, Traffic, Transportation/Pedestrian and Bicycle Facilities, the average growth rate of traffic volumes in the project area between the current conditions and horizon year (2050 No Build) ranged between -2% and 6%, with a 0.01% corridor-wide average.

Reasonably Foreseeable Growth Potential

As noted above, the Build Alternative would facilitate improved mobility for future conditions and would not directly or indirectly result in project-related growth or influence growth regionally or locally. In terms of foreseeable impacts to resources of concern, the proposed Build Alternative would not affect resources of concern (e.g., utilities, population, and housing) because land use development in the project area is controlled by local jurisdictions. Service providers also regularly evaluate growth trends and provide required infrastructure upgrades as needed.

Conclusion

The Build Alternative would modify access but would not change travel patterns in a way that would affect or influence growth. The Build Alternative would provide improved mobility and safety along the existing I-15/SR 78 Interchange, SR 78, and adjacent arterials and would facilitate improved mobility to the regional transportation system from the local transportation network. Resources of concern would not be affected because the Build Alternative is not growth-inducing and would not result in reasonably foreseeable growth. Based on the discussion above, the proposed project would not require further analysis of growth-related impacts.

2.1.4.4 Avoidance, Minimization, and/or Mitigation Measures

The proposed project is not growth-inducing, and no further analysis of growth-related impacts is required. The potential for unplanned development is limited given the built-out nature of the project area and entitlement status of existing vacant land. Therefore, no avoidance, minimization, and/or mitigation measures are required.

2.1.5 COMMUNITY CHARACTER AND COHESION

2.1.5.1 Regulatory Setting

NEPA, 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 U.S.C. 4331[b][2]). FHWA, in its implementation of NEPA (23 U.S.C. 109[h]), directs the final decision 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 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 the community character and cohesion in assessing the significance of the project's effects.

2.1.5.2 Affected Environment

This section discusses impacts to the community as result of implementation of the proposed project. The analysis is based on *Community Impact Assessment* (2025) prepared for the project.

The following analysis is based on data gathered from the United States Census Bureau such as population, race, ethnicity, income, and housing, which were evaluated to determine the character and cohesion of the community surrounding the project.

The project is located on the I-15/SR 78 Interchange and SR 78 corridor in the cities of Escondido and San Marcos, in San Diego County. For this analysis, a community study area was identified consisting of nine United States Census Bureau census tracts that are adjacent to and within a 0.5-mile radius of the project footprint. The community study area includes a larger area than directly affected by the project construction and ROW acquisitions to provide a broader picture of the area affected by the project. Demographic data of the San Diego County, the City of Escondido, and the City of San Marcos were analyzed to present the general population and housing characteristics for the study area.

Population

The proposed project is located primarily in the City of San Marcos, with a small area in the City of Escondido near the I-15/SR 78 interchange and south of SR 78. As described in the 2023 SANDAG North County CMCP (SANDAG 2023a), over the next 30 years, the North County region, which includes the cities of San Marcos and Escondido, is expected to grow in both population and employment. Population in the North County region is expected to increase about 13% by 2050 with most of the growth occurring in the cities of San Marcos and Escondido. As described in the 2023 CMCP,

over 30,000 housing units are required between 2021 and 2029 to accommodate this growth, The City of San Marcos had an estimated population in 2021 of 96,302 residents, which is expected to increase by almost 20% by 2050; the number of housing units is expected to increase by 35%.

The City of Escondido had an estimated population in 2021 of 151,688 residents, which is expected to increase by almost 9% by 2050; the number of housing units is expected to increase by nearly 19%.

Age

The median age of San Diego County is slightly older than both cities at 37.3 years old, with 64% of the population aged 18 to 64 years old, the working age population cohort (United States Census Bureau 2021a). In San Diego County, 21% of the population is under age 18 years old, and 15% are aged 65 years old and over (United States Census Bureau 2021a). The median age and age distribution of the cities of San Marcos and Escondido are similar to each other, but slightly younger than San Diego County. The City of San Marcos median age is 34.8 years old, and the age distribution leans towards the working age population cohort (18 to 64 years old) with approximately 58% of the total population in this category. Persons under 18 years old comprise 27.7% of the population and persons aged 65 years old and over make up 14.5%. In the City of Escondido, the median age is 34.6 years old; 57% of the total population is working age; 28% is under 18 years old; and 15% are 65 years old and over.

Housing

The average household size, shown in Table 2-5, in San Diego County in 2021 was 2.75 persons, 3.08 persons in the City of San Marcos, and 3.15 persons in the City of Escondido. According to SANDAG (2021), the number of persons per household in the cities of San Marcos and Escondido has decreased slightly since 2016, about 1.5% in each city. Further, according to SANDAG (2021), by 2050 the number of persons per household is estimated to decrease to 2.93 persons in the City of San Marcos, and to 3.0 persons in the City of Escondido; between 2016 and 2050, this number represents an approximately 6% decrease in each city. San Diego County has also shown a pattern of decrease in household size since 2016, about 3.5% from 2.8 persons in 2016 to 2.7 persons in 2021. By 2050, SANDAG (2021) estimates a decrease to approximately 2.6 persons per household across the county.

Table 2-5: Existing Regional and Local Household Characteristics

Geography	Total Households*	Average Household Size	Family Households (%)	Living Alone (%)
San Diego County	1,139,899	2.75	67.0	24.0
City of San Marcos	30,304	3.08	74.0	19.8
City of Escondido	50,456	3.15	67.4	25.7

Source: United States Census American Community Survey 2021

In 2021, as shown in Table 2-6, San Diego County had 1,237,685 units, with approximately 54% of those units being owner-occupied, 45% being renter-occupied units. The City of San Marcos had 35,300 units, with approximately 64% of those units being owner-occupied units, and 35% being renter-occupied units. In 2021, the City of Escondido had 52,542 housing units, with 55% of those being owner-occupied units, and 45% being renter-occupied units.

Table 2-6: Homeownership and Occupancy

Geography	Total Housing Units	Housing Units Occupied	Housing Units, Vacant	Owner-Occupied Units	Renter-Occupied Units	Tenure Greater Than 10 Years	Tenure Less Than 10 Years
San Diego County	1,237,685	1,162,896 (94%)	74,789 (6%)	631,760 (54.3%)	531,136 (45.7%)	81.4%	43.5%
City of San Marcos	35,300	34,037 (96.4%)	1,263 (3.6%)	21,988 (64.6%)	12,049 (35.4%)	59.4%	40.6%
City of Escondido	52,542	50,171 (95.5%)	2,371 (4.5%)	27,597 (55%)	22,574 (45%)	57.4%	42.6%

Source: United States Census American Community Survey 2021

As previously described, the population is expected to increase in the coming decades, with a subsequent increase in the number of housing units to accommodate this growth. The decrease in the number of persons per household does not reflect a lack of growth, but more likely reflects a combination of an increase in housing units, an aging population (by 2050, the median age in both cities is forecast to be 38 years old and 39 years old in the county), and declining birth rates.

According to the key indicators of community cohesion described above, it can be determined that there is an overall good degree of community cohesion in the cities of San Marcos and Escondido. Higher levels of owner-occupied residences, along with a high percentage of families and elderly residents, are commonly associated with stronger community cohesion, and homeownership often reflects long-term residency.

2.1.5.3 Environmental Consequences

An evaluation of potential impacts to community character and cohesion associated with each alternative is presented below.

No BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and ramps. Under the No Build Alternative, no improvements would be constructed, and congestion would continue to worsen for adjacent neighborhood residents. The No Build Alternative would not change the neighborhoods, communities, or community character of the study area because it would make no physical improvements in the area. The existing community impacts from congestion and cut-through traffic on local arterials would remain. There would be no changes to community cohesion as it currently exists.

BUILD ALTERNATIVE

Permanent Impacts

The Build Alternative would result in physical changes along the I-15/SR 78 interchange and the SR 78 corridor, including relocating the eastbound SR 78 on-ramp at Barham Drive, improvements along Rancheros Drive near the westbound off- and on-ramps, widening Barham Drive from La Moree Road to Woodland Parkway, widening the Woodland Parkway undercrossing, and constructing a bicycle facility on Barham Drive and Woodland Parkway. These improvements would provide better accessibility for motorists, pedestrians, and bicyclists. There is one parcel that would be fully acquired and three parcels partially acquired as part of the proposed improvements. The proposed Managed Lanes-to-Managed Lanes connector between I-15 and SR 78 would introduce new transportation infrastructure within an area characterized by a mix of residential, commercial, institutional, and open space land uses. Portions of the project would traverse areas of North County that are currently defined by lower-density development patterns, natural habitat, and open space buffers.

The introduction of elevated ramps, retaining walls, expanded pavement, and associated transportation facilities would increase the scale and intensity of freeway-related infrastructure, resulting in a noticeable shift toward a more urbanized corridor character. While the project is generally consistent with regional transportation plans and local circulation elements, it may conflict with existing community character goals identified in local general plans or specific plans, particularly in areas where the visual landscape and land use context are currently shaped by suburban development patterns. Increased lighting, noise, and vehicular activity may also create localized incompatibilities with adjacent sensitive land uses such as residential neighborhoods, schools, or parks. However, the project would not divide an established community but may result in secondary effects that alter the perceived cohesiveness or identity of certain neighborhoods. Section 2.1.1, Existing and Future Land Use, and Section 2.1.9, Visual/Aesthetics, provide further analysis of these changes. Additionally, these parcels are not residential, and it is not expected that the overall community character or cohesion of the project area would be substantially altered.

As stated in the below Section 2.1.6, Relocations and Real Property Acquisitions, the Build Alternative would require the full acquisition and displacement of a City of San Marcos-owned bungalow/storage structure located on Barham Drive and displacement of parking spaces at three parcels. There is the potential for loss of property tax base if adequate relocation sites cannot be found in the area. If businesses end operations due to the inability to find suitable replacement locations, employees would have to find new employment, potentially in other areas which may present challenges for employees that use public transit, walk, or bike to work.

The Build Alternative would not permanently divide an existing community or create a barrier between communities because the project occurs on an existing transportation corridor. Further, the Build Alternative would not require the removal or acquisition of housing in the area. By reducing congestion on the I-15/SR 78 interchange, SR 78

corridor, and connecting arterials, the Build Alternative is expected to result in beneficial effects on nearby communities. These effects may include reduced noise and emissions exposure currently experienced from congestion; ability to recreate and utilize the multiuse path for transportation purposes; improved traffic flow, travel times, and safety; increased access to jobs and homes; and improved overall quality of life in region. Therefore, no permanent impacts to community character and cohesion would occur, and the community would benefit from these project features.

Temporary Impacts

Construction of the Build Alternative has the potential to result in short-term effects to neighborhoods (e.g., temporary road closures and detours). Construction activities include grading, excavation, road detours, and temporary road closures. As discussed in Section 2.1.8, Traffic, Transportation/Pedestrian and Bicycle Facilities, implementation of the project's Final TMP would reduce project-related impacts to community character and cohesion. In addition, during the construction period, local residents and businesses would experience temporary visual changes associated with the construction activities and equipment in the area. There would also likely be temporary increases in noise and dust associated with the construction activities, although these impacts would be for a limited duration and, with implementation of appropriate BMPs, would be minimized.

2.1.5.4 Avoidance, Minimization, and/or Mitigation Measures

Community disruption during project construction would be temporary and minimized by developing and implementing a Final TMP and incorporating the following measures:

COM-1: Where acquisition and relocation are unavoidable, provisions of the Uniform Act and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by USDOT (on March 2, 1989). An appraisal of the affected property would be obtained, and an offer for the full appraisal would be made.

COM-2. TMP. During the duration of project construction, a TMP would be implemented to minimize the construction-related delays and inconvenience for travelers, residents, and businesses in the project area.

COM-3. Construction Noise. To limit noise during nighttime construction, Caltrans would follow Standard Specifications Section 14-8.02 (Caltrans 2018b), which specifies that construction activities between 9 PM and 6 AM are not to exceed 86 dBA L_{max} at a distance of 50 feet from the job site.

COM-4. Construction Noise for the City of San Marcos. Construction activities shall be limited to between the hours of 7 AM and 6 PM on Monday through Friday, and 8 AM and 5 PM on Saturdays, as set forth in the City of San Marcos Municipal Code (17.08.080).

2.1.6 RELOCATIONS AND REAL PROPERTY ACQUISITION

2.1.6.1 Regulatory Setting

Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons would not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix C for a summary of the RAP. All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix B for a copy of Caltrans' Title VI Policy Statement.

2.1.6.2 Affected Environment

This section summarizes information from *Relocation Impact Statement* (RIS; 2021, updated on February 24, 2025).

To construct the Build Alternative, the ROW would need to be acquired by Caltrans. The Build Alternative would not require residential displacements. However, four non-residential parcels would be impacted by acquisition and displacements. One parcel is owned by the City of San Marcos, and the other parcels are located adjacent to SR 78 in areas zoned as industrial/commercial and mixed-use. Two of these parcels are developed with a business/professional building and a landscaping business, and one parcel includes a church.

2.1.6.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, travel lanes, and ramps. Under the No Build Alternative, no improvements would be constructed, and no impacts to properties or relocations would occur.

BUILD ALTERNATIVE

Permanent Impacts

The Build Alternative would affect the properties shown in Table 2-7, which are non-residential displacements. The Build Alternative would require full acquisition and displacement of a City of San Marcos-owned parcel improved with a bungalow/storage structure located at 684 East Barham Drive. A portion of the parcel owned and operated by Grace International Churches, at 855 East Barham Drive, would be displaced resulting in impacts to church parking spaces. There are approximately 181 parking spaces at the church. Approximately 71 would be removed, and 59 spaces would be

replaced for a net loss of 12 parking spaces. Four of the 181 parking spaces are ADA spaces, and these spaces would be unaffected by the Build Alternative.

Table 2-7: Non-Residential Displacements

Business	Impact
City of San Marcos (Bungalow/Storage) (684 East Barham Drive)	Full acquisition
Grace Church Parking Lot (855 East Barham Drive)	Net loss of 12 parking spaces
751 Rancheros Drive (western side of Rancheros Drive)	Net loss of four parking spaces
698 Rancheros Drive (eastern side of Rancheros Drive)	Net loss of four parking spaces

Source: Relocation Impact Statement 2025

At 751 Rancheros Drive, eight parking spaces are being acquired and would be replaced with four spaces for a net loss of four parking spaces. At 698 Rancheros Drive, 11 parking spaces would be replaced with seven spaces for a net loss of four spaces.

It is anticipated that the City of San Marcos would have adequate replacement parcels to relocate the bungalow/storage building. It is not anticipated that parking displacements at Grace Church, 751 Rancheros Drive, and 698 Rancheros Drive would result in displacement of the church or businesses. Therefore, relocation of the two businesses located on Rancheros Drive and the church is not required.

Temporary Impacts

It is anticipated that TCEs would be required to construct the Build Alternative. These properties, identified during final project design, would maintain their existing use during and after project construction.

2.1.6.4 Avoidance, Minimization, and/or Mitigation Measures

To minimize potential relocation impacts, the following minimization measures would be implemented prior to construction.

RELO-1: Where acquisition and relocation are unavoidable, provisions of the Uniform Act and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by USDOT (on March 2, 1989). An appraisal of the affected property would be obtained, and an offer for the full appraisal would be made.

RELO-2: Access to all properties for property owners and users would be maintained by the contractor during construction.

2.1.7 UTILITIES/EMERGENCY SERVICES

2.1.7.1 Affected Environment

Utilities

Power, gas, telecommunications (fiber optic), and water utilities are located in the project area. San Diego Gas & Electric (SDG&E) provides electrical and natural gas services to the project area.

Water in the project area is supplied by Vallecitos Water District (City of San Marcos), and Valley Center Municipal Water District and Rincon del Diablo Municipal Water District (City of Escondido).

AT&T, Time Warner, Crown Castle Communications, and Cox Communications are the main telecommunication providers in the project area.

Law Enforcement

In the City of San Marcos and the City of Escondido, police protection and traffic enforcement are provided by the San Diego County Sheriff and the Escondido Police Department, respectively. The following are within 0.5 miles of the project:

- San Diego County Sheriff, San Marcos Station: 182 Santar Place, San Marcos, California; and
- Escondido Police Department: 1163 Centre City Parkway, Escondido, California.

The California Highway Patrol (CHP) Oceanside office (No. 650) has jurisdiction over I-15 and SR 78.

Fire Protection/Suppression

Fire protection and suppression in the project area are provided by the San Marcos Fire Department and the Escondido Fire Department. The following stations are within 0.5 miles of the project:

- San Marcos Fire Department, Station 1; 180 West Mission Road, San Marcos, California, 92069; and
- San Marcos Fire Department, Station 3; 404 Woodland Parkway, San Marcos, California, 92069.

2.1.7.2 Environmental Consequences

The information in this section is based on *Community Impact Assessment* prepared for the project (AECOM 2025).

NO BUILD ALTERNATIVE

The No Build Alternative would not require utility relocations as the project would not be constructed. No utilities would be relocated and impacts to utilities would not occur. Impacts to emergency services and response times due to project-related lane closures and detours during construction would not occur; however, in post-construction, there would also not be improvements in travel times and mobility for emergency services.

BUILD ALTERNATIVE

Lane closures and detours in the project area would be required to construct the Build Alternative. During final design, a TMP would be developed for the project to minimize construction-related delays and inconvenience to the project area residents, employees, and the traveling public. The TMP would include: notification to emergency service providers and the public of lane closures and detours, coordination with CHP and local law enforcement and emergency service providers on contingency plans, and using portable Changeable Message Signs where possible to minimize delays. Therefore, no emergency services would be temporarily affected by construction of the Build Alternative. No law enforcement, fire, and/or emergency services would be permanently affected by the proposed project, as access to I-15 and SR 78 would not be permanently altered by the project.

Once complete, the Build Alternative would result in a net benefit to emergency services by improving mobility and travel times.

Utility investigations have identified the location and extent of existing service lines in the project area. The project would require relocating some utilities. There are existing 115-kilovolt overhead electrical lines that would need to be relocated, and overhead utility lines would be raised by SDG&E to maintain the required clearance above the local roadways. The relocation of utilities would result in localized construction impacts that would require coordination and possible temporary measures to maintain service. Coordination would be ongoing with the utility providers during the design phase of the project.

2.1.7.3 Avoidance, Minimization, and/or Mitigation Measures

To minimize potential effects, coordination with the local utility companies will be required during final design. Notifications to any affected parties will be made in advance by the utility provider and/or Public Information Officer to minimize service disruption.

In addition, prior to construction activities, the construction contractor would contact utilities, DigAlert services, and/or other applicable entities to mark underground facilities, as needed.

2.1.8 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

2.1.8.1 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 multi-modal 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.

2.1.8.2 Affected Environment

The information in this section is based on the Draft Traffic Operations Analysis Report (TOAR) prepared for the proposed project by Caltrans in September 2023 and updated in January 2025.

Road Network

SR 78 is identified in the 2015 Interregional Transportation Strategic Plan as an interregional highway. SR 78 has a functional classification of other freeways or expressways and is part of the National Highway System, and the Surface Transportation Assistance Act (STAA) identifies SR 78 as a route for STAA trucks, meaning it is a designated road that can accommodate commercial truck traffic. SR 78 is a six-lane freeway and the principal east-west route in the North County region of San Diego. In San Diego County, SR 78 goes from the ocean to the desert, traversing through the cities of Oceanside, Carlsbad, Vista, San Marcos, Escondido, and a portion of San Diego. It connects Interstate 5 (I-5) to I-15, linking several communities to the interstate system. SR 78 connects multiple business, recreational, and residential sites. In the study area, SR 78 has interchanges at San Marcos Boulevard, Twin Oaks Valley Road, Barham Drive, Rancheros Drive/Woodland Parkway, and Nordahl Road.

There has been substantial growth in population, employment, and housing in the jurisdictions adjacent to the SR 78 corridor. An increased number of traffic generators along the corridor, such as schools, hospitals, and both local and regional shopping and

recreational activities have increased corridor use. New developments near California State University San Marcos and in the northern part of the City of Escondido have the potential to generate new trips in the area surrounding SR 78.

Interstate 15

I-15 has a functional classification of Interstate and is part of the Interstate System. I-15 is also part of the National Highway System and the Strategic Highway Network (STRAHNET). The National Network for STAA also identifies I-15 as a “National Network” route for STAA trucks. I-15 is a principal north/south freeway serving the inland portion of San Diego County, providing movement of commuter, regional, and interregional traffic. I-15 has four general-purpose lanes and one Express Lane in each direction of travel at SR 78, and two Express Lanes in each direction south of Hale Avenue. I-15 connects metropolitan San Diego to Riverside and other northern and eastern destinations. In the study area, I-15 has interchanges at Citracado Parkway/Gamble Lane, 9th Avenue/Auto Parkway, and Valley Parkway.

Public Transportation/Bicycle Facilities

Current multi-modal options along the SR 78 corridor and in the surrounding communities lack high-frequency, high-capacity transit services (e.g., rail, commuter bus, and bus rapid transit) to current and future major employment centers in North County.

NCTD and Metropolitan Transit System provide bus services along major circulation corridors in the City of Escondido and the City of San Marcos. NCTD provides local and express bus service and county transit service. Local bus service is generally provided at 30- to 60-minute intervals.

NCTD also operates a light rail transit system, the SPRINTER, a 22-mile, hybrid rail line that connects the cities of Oceanside, Vista, San Marcos, and Escondido, with 15 stations along the SR 78 corridor. The SPRINTER runs 7 days per week, with extended operation hours on Monday through Friday, at 30-minute intervals. The SPRINTER offers connections to the COASTER, BREEZE, Amtrak, and Metrolink rail lines; Greyhound bus service; and Rapid bus service.

In the City of San Marcos, there are currently Class II bicycle lanes in each direction of travel on Barham Drive, Woodland Parkway, and La Moree Road in the study area. In the study area, the City of Escondido has a designated Class I bike lane along Mission Road.

2.1.8.3 Environmental Consequences

The TOAR provides traffic-related information relative to existing conditions, opening year (project completion) conditions, and future conditions, with and without the proposed Project. The TOAR also provides information regarding general traffic

conditions for each scenario to understand operational results from the design and construct of the Project or alternatives. The scenarios are as follows:

Table 2-8: No Build and Build Alternative Traffic Scenarios

Alternative (Year)	Scenario
Existing Conditions (2019)	The scenario reflects existing transportation system and highway facilities with no project improvements.
No Build Conditions (2030)	The scenario would not construct any of the proposed project improvements and analyze the results for the 2030 modeled traffic demand.
Build Scenario (2030)	The scenario reflects construction of the proposed Project with two Express Lanes (one in each direction) on SR 78 west of I-15. This scenario does not include the following infrastructure: Managed Lanes between Twin Oaks Valley Road and El Camino Real, Express Lanes connectors to I-15 north of SR 78, and Express Lanes on I-15 north of SR 78.
Build Scenario (2050)	The scenario reflects construction of the proposed Project and operating two Express Lanes (one in each direction); the regional system includes Express lanes on I-15 north of SR 78, Express Lanes between San Marcos Boulevard and College Boulevard; and Express Lane connectors to I-15 north of SR 78. This scenario is considered the most conservative in terms of traffic volumes.

Analysis of the scenarios include Freeway LOS, Intersection LOS, Intersection Queuing, and Safety. For all freeway segments (basic, ramps, and weaving segments), a LOS analysis was performed using the Highway Capacity Manual (HCM) 7th Edition. For all study area intersections, a LOS analysis was performed for AM and PM peak-hour conditions using the HCM 6th Edition operations methodology.

Queuing analyses were conducted for study intersections to determine the adequacy of the left- and right-turn lanes to accommodate the traffic. The queue lengths were calculated using the Synchro SimTraffic, which accounts for the 95th percentile queue lengths.

Caltrans Traffic Accident Surveillance and Analysis System (TASAS) accident data served as the basis of the study area mainline and ramp safety assessment. The 5-year period data from October 2017 to September 2022 were analyzed. Tabular summaries of crash data were prepared by location, type, and severity of crashes.

NO BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and ramps. Existing deficiencies and network effects mentioned in Section 1.2.2. (Need) would remain. The No Build Alternative would operate worse as compared to the Build Alternative in regard to future projections, as discussed in detail below.

BUILD ALTERNATIVE

Year 2030 Alternatives Comparison

The TOAR determined that SR 78 would operate better under 2030 Build Alternative conditions in comparison to 2030 No Build conditions. With the addition of managed lanes and improvements at Barham Drive and Woodland Parkway interchange, the overall performance of SR 78 would improve. In the SR 78 eastbound direction, during AM peak hour, the average general-purpose lane speeds would improve from 37.4 miles per hour (mph) in existing conditions to 41.2 mph in 2030 Build Alternative conditions.

Additionally, I-15 would operate slightly better under 2030 Build Alternative conditions in comparison to 2030 No Build conditions. In the I-15 northbound direction, the 2030 Build Alternative scenario would operate slightly better than the 2030 No Build scenario, with average speeds increasing by 2 mph during peak hours. In the I-15 southbound direction, during AM peak hour, the average speed in the 2030 Build Alternative scenario would improve from 47.7 mph in the No Build scenario to 57.1 mph in the 2030 Build Alternative scenario. It should be noted that managed lane segments not operating at free-flow speed or better would be managed to maintain free-flow speed upon completion.

Year 2050 Alternatives Comparison

SR 78 would operate better under the 2050 Build Alternative conditions in comparison to the 2050 No Build conditions. With the addition of managed lanes and improvements at Barham Drive and Woodland Parkway interchange, the overall performance of SR 78 would improve. In the SR 78 eastbound direction, during the AM peak hour, the average speed would improve from 40.0 mph in the 2050 No Build conditions to 42.2 mph in the 2050 Build Alternative conditions. Managed lanes are projected to operate at approximately 65 mph in the Build Alternative scenario in both directions. It should be noted that managed lane segments not operating at free-flow speed or better would be managed to maintain free-flow speed upon implementation. All 2050 scenarios have I-15 managed lanes north of SR 78 interchange. The average speed along I-15 is projected to be similar across the scenarios. Overall, 2050 scenarios would operate slightly better than the existing conditions due to the addition of managed lanes north of the SR 78 interchange.

Public Transportation/Bicycle Facilities

Consistent with the adopted 2021 Regional Plan and the Draft 2025 Regional Plan, the implementation of managed lanes and transit services (as part of SANDAG's *Complete Corridors*) would provide greater flexibility and additional travel options on existing roadways. Commuters using the carpool/bus lanes would be able to bypass congestion in the general-purpose lanes and lower their travel time. In addition, as part of the North County Comprehensive Multimodal Corridor Plan, SANDAG and Caltrans have

identified several transit and active transportation improvements surrounding the Build Alternative as part of a proposed Inland Mobility Gateway bundle of projects.

Managed lane and active transportation improvements would facilitate pedestrian and bicycle access, micro-transit, micro-mobility services, and planned bus rapid transit services from North County and Riverside County.

Once operational, the Build Alternative would improve access and circulation in the area, as described above, which would have a beneficial effect on delay times experienced by transit users. The Build Alternative would also improve access to transit stops in the area by making complete street improvements to improve pedestrian circulation. As discussed in Section 1.2.2, Need, the Build Alternative would improve multi-modal access and connectivity and increase transportation options for commuters and general travelers by facilitating bus rapid transit services. The operational improvements would further benefit public transit by improving safety and traffic along the project corridor and local connectors. Therefore, the Build Alternative would not adversely affect public transportation.

VTM Impacts

Caltrans has developed the Transportation Analysis Framework (TAF) and Transportation Analysis under CEQA documents to guide the CEQA transportation impact analysis for projects on the State Highway System. Caltrans has prepared these documents to guide the implementation of SB 743 (Steinberg 2013).

Raw VMT Impacts

A discussion of consistency with CEQA Guidelines Section 15064.3 is provided in Section 3.2.17, Transportation. The project Build Alternative was analyzed to determine the expected levels of increased VMT that would result from its implementation. The National Center for Sustainable Transportation (NCST) Calculator, designated by the Caltrans TAF, was used as the primary tool to determine the expected induced travel. The calculator results were then adjusted for truck travel according to Caltrans guidance. The results were that the VMT would be increased by an estimated 17.78 million VMT per year. The NCST Calculator does not differentiate between adding general-purpose lanes and adding managed lanes.

2.1.8.4 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures are required for non-VMT impacts on traffic and transportation for the Build Alternative. During construction, temporary lane closures and detours would be required for the ramp and lane construction work along I-15 and SR 78, and for road realignment and widening along Barham Drive and Woodland Parkway for the multi-purpose and bicycle lanes.

A TMP would be developed for the project to minimize construction-related delays and inconvenience to the project area residents, employees, and the traveling public. During the duration of project construction, a TMP would be implemented to minimize the

construction-related delays and inconvenience for travelers, residents, and businesses in the project area. The TMP would include public information, motorist information, incident management, construction, demand management, and alternate routes or detours.

In order to minimize the expected increase in VMT, potential VMT mitigation improvements TRA-1 and TRA-2 are proposed, as described in Section 3.2.17. The project team undertook an extensive process to determine projects and programs that would induce VMT from this project to a level of less than significant with mitigation incorporated. It is expected that the chosen mitigation strategies would offset any induced VMT and may provide even further VMT reduction in the project area. These measures would reduce the estimated annual VMT by 19.88 million vehicles and are expected to bring the project's induced VMT to a level of less than significant with mitigation incorporated.

However, the two mitigation measures for VMT would be a combination of on-system mitigation and off-system mitigation. On-system mitigation is a measure that can be implemented in the Caltrans ROW. Caltrans, as owner and operator of the State Highway System and associated ROW, exercises more direct authority over on-system measures as opposed to off-system measures.

Off-system mitigation, outside of the Caltrans ROW, requires cooperation of those jurisdictions that have influence over land use and transportation systems outside of Caltrans' direct control.

For that reason, while the mitigation strategies would offset any induced VMT at project completion, funding for the VMT mitigation programs cannot be guaranteed in perpetuity. It is infeasible for an agency to commit funding for ongoing maintenance and operations past a specific time horizon due to future uncertainties. Additional funding would need to be secured in the future to ensure the continued success and longevity of these programs. Some funding, such as for the voluntary trip reduction program, could be provided by toll revenue that is collected from the managed lanes system. The partner agencies plan to use the net toll revenue to fund VMT mitigation. Additional funding for vanpooling would need to be secured from regional sources, and therefore due to that future uncertainty, VMT impacts would be a significant and unavoidable impact under CEQA. The mitigation measures are described in more detail in Section 3.2.17.

2.1.9 VISUAL/AESTHETICS

2.1.9.1 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.

2.1.9.2 Affected Environment

A Visual Impact Assessment (VIA) was completed by Caltrans in December 2024. The VIA was prepared in accordance with the guidelines in FHWA’s VIA for Highway Projects (FHWA 1981). The purpose of the VIA is to document potential visual impacts caused by the proposed project and propose measures to lessen any detrimental impacts that are identified. Visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to or perceive those changes.

Visual Setting

The proposed project is located in San Diego County on I-15 (Postmiles: R30.6/R32.0) and on SR 78 (Postmiles: 11.0/R16.7) within the Cities of Escondido and San Marcos. The proposed project is approximately 12 miles east of the coast. The SR 78 corridor is generally perceived as a coast to inland freeway which links a series of cities in northern San Diego County. The project setting has varied landforms defined by rolling foothills, creeks, and valleys. Vegetation consists of a wide range of native and introduced plant species. The signature freeway tree is eucalyptus. The characteristic native plant community is coastal sage scrub.

The land uses bordering this segment of freeway include residential, commercial, light industrial, open space and multiple residential types. Commercial and light industrial properties are the predominant land use. The area also includes the Sprinter Railway, Palomar College as well as restaurants, hotels, and office buildings. Bridges and retaining walls are present, but the dominant visual element along the freeway are tall trees, frontage roads and buildings with signage. The Inland Rail Trail extends from Mar Vista Drive in the City of Vista to the Escondido Transit Center in the City of Escondido.

This Project is not located on an officially designated or eligible State Scenic Highway. However, SR 78 is designated by the City of San Marcos as a view corridor since it provides views of the Merriam Mountains, Mount Whitney, Double Peak, California State University San Marcos (CSUSM), and Palomar Community College.

Visual Assessment Units

The project corridor was divided into a series of three “outdoor rooms” or visual assessment units (VAUs). Each VAU has its own visual character and visual quality and is typically defined by the limits of a particular viewshed (the area that is visible from a specific location, or the area that can see a specific location). Key views within each VAU are further described below. For this project, the following visual assessment units are identified:

- SR 78 Freeway Unit: Valley floor viewshed along the SR 78 corridor (urban development)
- SR 78 Frontage Roads Unit: Roads with views to the SR 78 freeway
- I-15/SR 78 Interchange Unit: Elevated viewshed with connector ramps and distant ridgelines

See below for additional information.

SR 78 Freeway VAU

This VAU is the valley floor along the SR 78 corridor and is shown in Figure 2-1. The project boundaries in this VAU are between Twin Oaks Valley Road and Rock Springs Road (PM 12.6-R16.7) in the cities of Escondido and San Marcos. This VAU is bounded on the north and south by the San Marcos Valley foothills. Visual attributes of this area are typically urban development and include:

- Tall trees in the freeway landscape which partially screen adjacent land uses.
- Commercial and light industrial development with building signage facing the freeway
- San Marcos Creek riparian vegetation
- Bridge overcrossings with architectural elements at Nordahl Road and Twin Oaks Valley Rd.
- The Sprinter Railway bridge crosses SR 78 at two locations

Figure 2-1: SR 78 Corridor VAU - Aerial View From West of Nordahl Road Looking East to I-15



SR 78 Frontage Roads VAU

This VAU, as shown in Figure 2-2, includes the frontage roads with views to the freeway are located near the east end of the SR 78 corridor in the city of San Marcos. The project boundaries at frontage roads include Barham Drive from La Moree Road to Woodland Parkway, the Woodland Parkway UC, and Rancheros Drive from Woodland Parkway to Valpreda Road.

- Railroad and transit elements including stations, tracks and overhead structures
- Street frontage with sidewalks and landscaping, or no sidewalks, grasses and dirt
- Fencing such as chain link, wrought iron, chain link with slats, wood board
- Wood utility poles and overhead lines
- Varied land uses including open space, residential, commercial and light industrial
- The Sprinter Railway Bridge crosses over the SR 78 freeway and East Barham Drive

Figure 2-2: SR 78 Frontage Roads VAU - Barham Drive Aerial View at Woodland/Barham UC Looking East.



I-15/SR 78 Interchange VAU

This VAU, shown in Figure 2-3, is the SR 78/I-15 interchange, and the project segment of I-15 that traverses the industrial and commercial center of the City of Escondido. The interchange is a flat landform dominated by the line patterns of various ramps moving in different directions. Open elevated freeway views are of distant urban development and ridgelines. Freeway landscaping consists of low grasses and a detention basin within the interchange. Trees planting at the edge of ROW screen views of adjacent industrial and commercial development.

Visual attributes of this area include:

- Scattered trees and brush covered slopes within the interchange landscape
- Open elevated freeway views of urban development and ridgelines
- Eucalyptus tree buffer planting at the edge of ROW
- Views of various ramps and traffic moving in different directions

Figure 2-3: SR 78/I-15 Interchange VAU - Aerial View Looking South at I-15



Existing Viewers and Viewer Response

The population affected by the project is composed of viewers, or people, whose views of the landscape may be altered by the proposed project—through landscape change, or perception of that change. Viewer response is a measure or prediction of the viewer's reaction to change in the visual environment and is a function of exposure, e.g., how close the viewer is to the scene or object, and how long the viewer observes the scene or object, and awareness, e.g., how often does a viewer observe the scene or object, and how focused is the viewer on the scene or object. The greater the exposure and awareness, the more viewers would be concerned about visual impacts and would be more sensitive to change to existing views. For example, daily commuters may have an increased awareness of views from the road due to the amount of time spent on a road or highway each day, but for those travelers that experience congestion tend to focus views on the road, while free-flowing traffic would focus attention on long range non-peripheral views. Based on the FHWA guidance (2015), viewer exposure and sensitivity is described as either low, moderate-low, moderate, moderate-high, or high.

The following viewer groups, and typical viewer response, were identified as the most common in the project area:

- Freeway travelers are the primary viewer group with a moderate viewer response.

- Local street viewers would also have a moderate response.
- Community residents would have a moderate-low visual response.
- Business patrons and employees, and bike path users would have a low viewer response.

Key Views

Because it is not feasible to analyze all the views in which the proposed project would be seen, it is necessary to select a number of key views associated with the three VAUs that would most clearly demonstrate the change in the project's visual resources. Key views also represent the viewer groups that have the highest potential to be affected by the project considering exposure and sensitivity. Figure 2-4 shows the location and direction of the key views selected for this project. Existing condition photos of each of the key views, along with photo simulations of these locations after the proposed project is construction are provided in the Environmental Consequences section below.

Figure 2-4: Key Views Map



2.1.9.3 Environmental Consequences

The discussion below presents environmental consequences associated with the proposed project from the perspective of each key view. Visual effects are determined by assessing changes to the visual resources and predicting viewer response to those changes. These effects can be beneficial or detrimental. Temporary effects due to construction activities are also considered. A generalized VIA process is illustrated in the following diagram:

Figure 2-5: Visual Impact Assessment Process

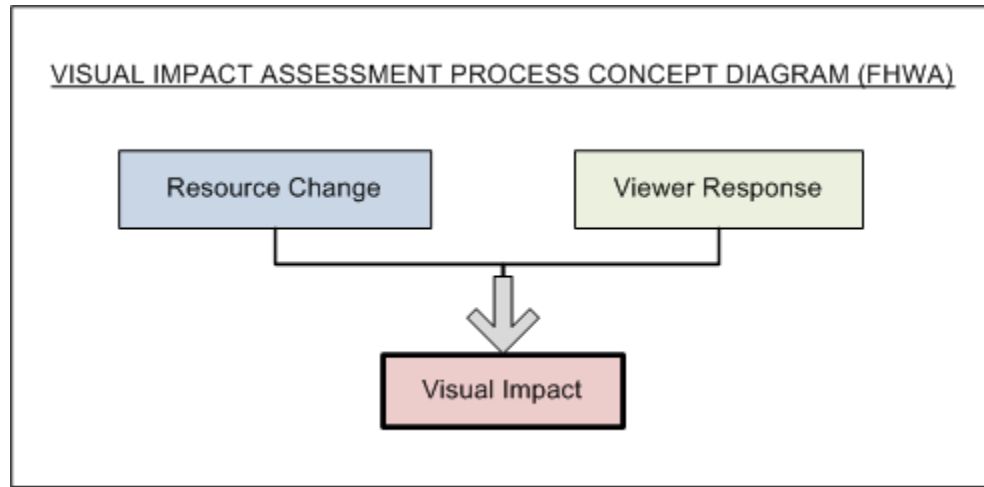


Table 2-9 below provides a reference for determining levels of visual impact by combining resource change and viewer response.

Table 2-9: Visual Impact Ratings Using Viewer Response and Resource Change

		Viewer Response (VR)				
Resource Change (RC)		Low (L)	Moderate-Low (ML)	Moderate (M)	Moderate-High (MH)	High (H)
	Low (L)	L	ML	ML	M	M
	Moderate-Low (ML)	ML	ML	M	M	MH
	Moderate (M)	ML	M	M	MH	MH
	Moderate-High (MH)	M	M	MH	MH	H
	High (H)	M	MH	MH	H	H

NO-BUILD ALTERNATIVE

Under the No-Build Alternative, no improvements would be made within the proposed project site, including no improvements to the existing infrastructure. There would be no resource changes to the existing visual quality and character of the project site. As such, there would be no impacts to visual/aesthetic resources.

BUILD ALTERNATIVE

Under the Build Alternative, the visual quality and character of the I-15/SR 78 corridor and Woodland/Barham area would be noticeably more urban after project construction. Visual character would change due to tree removal and construction of soundwalls and retaining walls. The project would shift the freeway's visual balance from landscaped edges to hard surfaces, and its current character to more urban. Visual quality would become more coherent and harmonious if structures and walls conformed to the corridor architectural theme, and if trees are replanted where space allows. In narrow landscape areas, vines would be planted on fencing to soften roadside edges where feasible. The overall visual resource change would be moderate.

The following section uses the key views within each VAU to describe the visual effects of the Build Alternative and compares existing conditions to the proposed Build Alternative, and included the predicted viewer response once the Build Alternative is completed.

I-15/SR 78 INTERCHANGE VAU – Key Views (KV) # 1 and #2

Figure 2-6: KV #1 – Existing Conditions



Existing Visual Quality/Character

KV #1 – Existing Conditions, provides a vantage point for depicting the proposed Direct Connector structure from SB I-15.

The existing visual quality is moderate-low. Views are primarily limited to the Caltrans ROW, with only partial distant views to ridgelines, trees, and development in the City of Escondido. The existing visual character is largely defined by the freeway lanes, overhead ramp structures, concrete barriers, signage, and lighting. Mature trees soften the edges of the viewshed. Vividness is low due to a lack of memorable views.

Viewer Response

There are approximately 250,000 freeway travelers per day on this portion of I-15. Many drivers commute from North County to San Diego every day. The views to the new ramp would be short duration. Sensitivity to the change in the visual environment would likely be moderate-low and overall viewer response would be moderate.

Proposed Project Features

The proposed I-15/SR 78 managed lane direct connector structure would begin in the existing center median of I-15 at the Hale Avenue Undercrossing, just north of Hale Avenue, and would connect to the existing lanes of the I-15 Express Lanes. As shown on Figure 2-7, KV #1- Proposed Condition, the structure would rise in elevation in a northerly direction before curving towards the west to span the I-15 southbound lanes. The 59-foot-wide ramp would be supported by a structure known as an outrigger bent. The supporting structure consists of two bridge columns (bents) and a beam (outrigger). The project proposes to support the ramp with two outrigger bents.

Figure 2-7: KV #1 – Proposed Condition – Direct Connector Ramp with two outrigger bents



Resource Change

The elevated ramp and support structures would become a prominent visual feature and partially block desirable ridgeline views from the road. The overhead ramp would create a sense of enclosure and emphasize views of freeway traffic. Visual quality would be reduced due to the large scale and monolithic form of the outrigger bent which supports the bridge deck. Architectural treatment normally proposed as mitigation could not reduce the scale of the support structure. Visual unity would be reduced because all other overhead ramps are not supported by outrigger bents. The adverse change in visual quality would be moderate. The existing urban visual character of the freeway

would remain. The overall level of resource change would be moderate with the inclusion of the visual impact avoidance measures.

Existing Visual Quality/Character

Figure 2-8: KV #2 – Existing Conditions, provides a vantage point for depicting the proposed ramp widening and the direct connector structure from SR 78. The I-15/SR 78 Interchange’s existing visual quality is moderate-low due to the low levels of vividness, unity, and intactness. Freeway ramps, signage, and sparsely vegetated freeway slopes contribute to the low visual quality. Freeway landscaping does not exist at the interchange but does occur along the freeway edge. Offsite views are buffered from the freeway with the soft dark green texture of an informal mix of large mature trees. The landscape buffer increases the visual quality to moderate-low. The area has low levels of vividness due to the lack of memorable views – except for an offsite American Flag on a tall pole. The existing visual quality is moderate-low.

Figure 2-8: KV #2 – Existing Conditions



Viewer Response

There are approximately 250,000 freeway travelers per day on this portion of SR 78. Many drivers commute from North County to San Diego every day. Views of this area are short duration. Sensitivity to the change in the visual environment would likely be moderate-low and overall viewer response would be moderate.

Figure 2-9: KV#2 – Proposed Condition – Direct Connector Ramp in median



Proposed Project Features

As shown in Figure 2-9, KV#2 – Proposed Condition, as viewed from the eastbound SR 78, the proposed I-15/SR 78 managed lane direct connector structure would begin in the center median of SR 78. The existing median barrier would be removed and replaced by a double median barrier to make room for the new connector ramp. The structure would rise in elevation in an easterly direction before curving towards the south to connect to the existing lanes of the I-15 Express Lanes. Freeway widening would remove many eucalyptus trees located in Caltrans ROW south of the freeway. The trees would be replanted where space allows.

Resource Change

The visual character of the SR 78 freeway would become more urban due to the size and scale of the elevated freeway ramp. Views from the freeway would be diminished in quality by the increase in size and scale of the freeway structure. The new built forms would restrict low quality views across the freeway and towards the existing I-15 bridge and connector ramps. Freeway widening would displace mature trees along the existing ROW footprint. This change would reveal undesirable views to the adjacent industrial development. However, tree removal would clearly reveal the flag and may also reveal desirable ridgeline views. To reduce visual impacts, the structure would incorporate architectural design themes from the I-15 and SR 78 corridor. Trees would be replanted in Caltrans ROW where space allows. The proposed construction would shift the visual character to be more urban and reveal undesirable views to the adjacent industrial development. The overall level of resource change would be moderate with the inclusion of the visual impact avoidance measures.

SR 78 FREEWAY VAU – KV # 3 and #4

Figure 2-10: KV #3 – Existing Conditions



This VAU is valley floor along the SR 78 corridor. In Figure 2-10: KV #3 – Existing Condition, the viewing northwest from westbound SR 78 approaching the East Mission Road Bridge overcrossing. This view provides a vantage point for depicting the proposed freeway widening and soundwall on views from the westbound freeway lanes.

Existing Visual Quality/Character

This area has a moderate-low level of visual quality. The presence of the freeway lowers the unity and intactness of the viewshed. The existing visual character is largely defined by the freeway lanes, overhead signs, and the median barrier. The natural features of the viewshed are randomly planted trees and distant ridgelines. The trees act as a natural buffer between the freeway and nearby residences. The large cut slope north of the freeway is sparsely vegetated and lowers the visual quality of the unit. Vividness is moderate-low due to the lack of memorable landscape features.

Viewer Response

There are approximately 250,000 freeway travelers per day on this segment of SR 78. Many drivers commute from North County to San Diego every day. During periods of free flow travel, the project can be traversed in 4.5 minutes. The proposed freeway widening would require soundwalls which would displace mature trees. Viewer sensitivity to visual change is expected to be moderate for freeway travelers.

Figure 2-11: KV #3 – Proposed Condition – Freeway Widening and Sound Wall



Propose Project Features

As shown in Figure 2-11: KV#3 – Proposed Condition, this photo-simulation depicts the effects of the proposed SR 78 freeway widening and sound wall on views from the westbound freeway lanes approaching the East Mission Road Bridge overcrossing.

Resource Change

The proposed sound wall would become a prominent visual feature, block desirable views from the road, and change the existing visual character of the freeway. Soundwalls are normally associated with urban areas. The introduction of soundwalls at the SR 78 corridor would increase the urban quality of the freeway viewshed.

The proximity of this soundwall to freeway viewers would create a sense of enclosure and emphasize views of freeway traffic. The wall would result in a loss of visual intactness because its long, unbroken vertical surface would replace views of freeway landscaping. Visual unity would also be reduced because the wall would sever the spatial relationship between the freeway and the surrounding landforms. The adverse change in visual quality would be moderately high. To reduce visual impacts, soundwalls would be a tan color and include architectural detailing. Trees planted behind the wall reduce the visual scale of the wall.

The overall level of resource change would be moderate with the inclusion of the visual impact avoidance measures.

Figure 2-12: KV #4 – Existing Conditions



As shown in Figure 2-12: KV #4 – Existing Conditions, this is the vantage point of motorist traveling east on SR 78, just east of Nordahl Road.

Existing Visual Quality/Character

The freeway forms a strong line of bisection through the local development patterns. Commercial and industrial development lowers the unity and intactness of the landscape. The freeway is elevated above the adjacent industrial area to the south. Offsite views to this area are buffered from the freeway by soft, dark green mature trees. Commercial buildings to the north are elevated above the freeway. The buildings are highly visible due to the scale and light color. Distant ridgeline views to the east are the focal point for freeway travelers. The visual character of the viewshed is urban due to the scale and prominence of the buildings. Visual unity is moderate because the freeway trees form a soft vertical edge along the roadside and are compatible with the freeway scale. Intactness is moderate-low due to intrusive elements such as buildings, commercial signage, and industrial properties. Vividness is low due to a lack of memorable views. Overall visual quality is moderate-low.

Viewer Response

There are approximately 250,000 freeway travelers per day on this segment of SR 78. Many drivers commute from North County to San Diego every day. Viewer awareness of potential tree removal would likely be high. Sensitivity to this change may be moderate-high because tree removal would conflict with local values and goals as expressed in community design guidelines.

Figure 2-13: KV -#4 – Proposed Condition – Freeway Widening



As shown in Figure 2-13: KV #4 – Proposed Conditions, this view provides a vantage point for depicting the proposed freeway widening and roadside tree removal. The resource change was determined to be moderate with the visual impact being moderate-high.

Proposed Project Features

Outside widening of SR 78 is proposed to accommodate a single managed lane along the existing median. The 36" median barrier would be replaced with a 42" barrier. The outside widening would remove all trees and construct a 36" high concrete barrier along the edge of shoulder.

Resource Change

The increased scale of the freeway and loss of trees would change the visual character of the viewshed to urban. The resulting adverse change in visual quality would be moderately high. Intactness and unity levels would decrease moderately due to increased pavement, loss of dense, mature freeway trees, and unshielded views to the adjacent light industrial area below the freeway. However, desirable views to distant ridgelines could be revealed. To reduce visual impacts, vines planted on chain link fencing would screen foreground views of the adjacent industrial properties. Trees and shrubs would be replanted where space allows. However, the tree height would not completely screen the taller elements within the adjacent industrial properties.

The overall level of resource change would be reduced with the inclusion of the visual impact avoidance measures. The post construction level of resource change would be moderate-high due to open views to the adjacent industrial land uses. The overall level of resource change in ten years would be moderate when new trees grow large enough to partially screen undesirable offsite views.

SR 78 Frontage Roads VAU: KVs #5 and #6

Figure 2-14: KV #5 – Existing Conditions



This VAU includes the frontage roads with views to the SR 78 freeway. This view represents the vantage point of drivers traveling west on Rancheros Road. The road borders SR 78 on the west and mobile home developments to the east.

Existing Visual Quality/Character

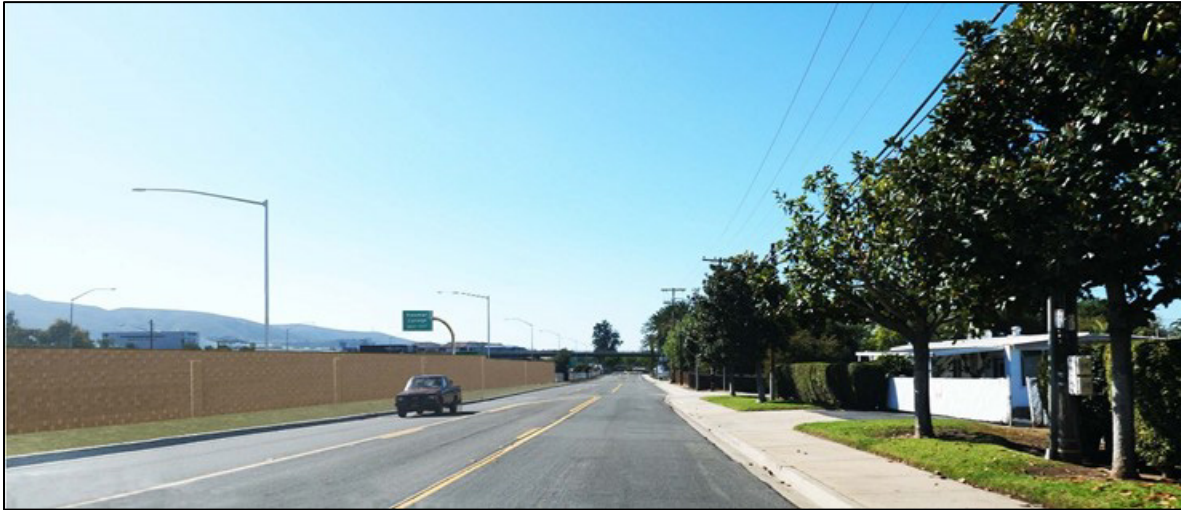
A heavily landscaped parkway buffers a mobile home park from Rancheros Road. Beyond Rancheros Road, the freeway forms a distinct urban contrast. The expansive freeway paving and lack of landscaping contrast with the landscaping and residential architecture built to a human scale. Street trees and hedges form a dark green textured vertical screen along the mobile park which contrasts with the flat dirt parkway and chain link fence west of the road.

The visual character of the viewshed is suburban on the east, and urban on the west. Views to the freeway beyond reduce the visual unity and intactness to a moderate level. The vividness of the viewshed is low despite distant ridgeline views and visual quality is moderate-low.

Viewer Response

There are several hundred residences located on the northerly side of Rancheros Road. Residential views of the freeway are buffered by landscaping near their homes. In addition, areas with long duration views such as recreational areas are orientated away from the freeway. Residents entering and exiting the neighborhood onto Rancheros Road would experience short duration foreground views of the freeway. Viewer sensitivity of residents would likely be low. Other local street users would have moderate viewer exposure and moderate-low viewer sensitivity. Overall viewer response is moderate-low.

Figure 2-15: KV-#5 – Proposed Conditions – Soundwall



As shown in Figure 2-15: KV #5 – Proposed Conditions, this depicts the effects of a proposed sound wall on views from Rancheros Road.

Proposed Project Features

A 9' to 13' tall masonry block sound wall would be constructed on a 3' tall concrete barrier at the edge of road. The wall and barrier would replace the existing chain link fence.

Resource Change

The wall would block undesirable views of the freeway and shift the existing visual character of the road from a freeway frontage road to a suburban frontage road. The visual quality of Rancheros Road would improve and there would be a moderate-low level of change in visual character. The overall resource change would be moderate-low.

As residents use Rancheros Road to enter and exit the neighborhood daily, they experience short duration foreground views of the wall. The proximity of this soundwall to street users would create a sense of enclosure and the wall would screen undesirable freeway views. Desirable ridgeline views above the wall would remain for westbound street users. Viewer sensitivity to the new sound wall is anticipated to be low and overall viewer response to the visual change would be moderate-low.

The visual quality/character of the viewshed would improve by removing views of the freeway, but adversely impacted by the presence of a large built form at the edge of the road. The tall wall would contrast with the scale of the nearby residential architecture. The wall surface could be subject to graffiti and introduce an undesirable element to the area. The overall level of resource change would be low with the inclusion of the visual impact avoidance measures.

Figure 2-16: KV #6 – Existing Conditions



As shown in Figure 2-16: KV #6 – Existing Conditions, this is viewing east from East Barham Drive toward SR 78 and is the location of the East Barham Drive widening and Woodland Bridge Undercrossing improvements. This view represents drivers traveling east on East Barham Drive approaching the Woodland Ave./Barham Dr. intersection. Barham Drive is south of SR 78.

Existing Visual Quality/Character

The Sprinter Rail is a dominant element that sharply contrasts with sky views as it crosses over East Barham Drive and the freeway. The Woodland Undercrossing bridge and retaining walls are partially screened by soft vegetation with green and dull brown colors. The visual character of the viewshed is dominated by transportation structures and the roadway. Visual unity and intactness are moderate. The vividness of the viewshed is low and the visual quality is moderate-low.

Viewer Response

East Barham Drive travelers include residents and visitors. Existing and new residential developments would use the road daily. Residents entering and exiting the neighborhoods onto East Barham Drive would have moderate viewer exposure with low viewer sensitivity to changes. Other users would have moderate viewer exposure and low viewer sensitivity; Overall viewer response is moderate-low.

Figure 2-17: KV #6 – Proposed Conditions – East Barham Drive and Woodland UC Improvements



As shown in Figure 2-17: KV #6 – Proposed Conditions simulation depicts the effects of the proposed East Barham Drive and Woodland Undercrossing improvements on views from East Barham Drive.

Resource Change

The existing transportation-oriented visual character of the viewshed would increase due to the wider bridge, wider street, new bikeway, bike lane pavement markings and loss of fallow landscape areas. The visual quality/character of the viewshed would be adversely impacted by the loss of trees. To reduce visual impacts, the parkway between the roadway and the bikeway would be planted. Street trees could be planted in city ROW if space allows and as recommended by the City of San Marcos. There would be a moderate level of change in visual character. The overall resource change would be moderate. As residents use Barham Drive to enter and exit the neighborhood daily, they experience short duration views of the road and bridge improvements. Viewer sensitivity to the wider roadway, new bikeway and bridge improvements is anticipated to be low. Street trees, if planted, would soften the hard surfaces of the streetscape. Overall viewer response to the visual change would be low. The overall level of resource change would be moderate-low with the inclusion of visual impact avoidance measures. To reduce visual impacts, the bridge rail and retaining walls would have architectural detailing such as pilasters, wall caps, and texture to add visual interest and deter graffiti and the parkway would be landscaped.

Summary of Visual Effects

As described above and summarized in Table 2-10 below, the Build Alternative would shift the visual character of the viewshed to be more urban due to new walls and structures and loss of roadside trees. The resulting adverse change in visual quality would be moderate at the I-15/SR 78 Interchange, moderate to moderate-high at the SR 78 freeway, and moderate-low at the SR 78 frontage roads.

Table 2-10: Summary of the Built Alternative Key View Narrative Ratings

Visual Assessment Unit	Key view	Existing Condition		Built Alternative	
		Visual Quality	Viewers Response	Resource Change	Visual Impact
I-15/SR 78 Interchange	1	Moderate-Low	Moderate	Moderate	Moderate
	2	Moderate-Low	Moderate	Moderate	Moderate
SR 78 Freeway	3	Moderate-Low	Moderate	Moderate	Moderate
	4	Moderate-Low	Moderate-High	Moderate-High	Moderate-High
SR 78 Frontage Roads	5	Moderate-Low	Moderate-Low	Moderate-Low	Moderate-Low
	6	Moderate-Low	Moderate-Low	Moderate	Moderate

The project is not considered to have a negative visual appearance and would not substantially alter the visual character and quality of the freeway corridor and surrounding area. Freeway retaining walls and soundwalls have been designed and sited to reduce visual impacts. All project walls include texture and color to integrate the walls with the surrounding area. Where possible, trees and shrubs or vines are placed in front of walls to help improve the visual quality and character and help to mask the walls and reduce their visual impact. The project would have a less than significant impact on public views.

The proposed project features would not block public views of visual landmarks, scenic vistas, or public view corridors. The project would have a less than significant impact on the neighborhood character and architecture. The project would somewhat alter the existing landform in the area; however, most of the existing landform is characterized by manufactured or cut slopes from previous freeway projects. Where feasible, all grading would closely imitate the existing landforms, and the proposed grades would not result in contours that are much different than the existing landform that currently exists within the freeway corridor. The project lighting would be shielded and directed toward the path of travel so the project would not adversely modify the existing nighttime views or emit a significant amount of additional light or glare.

The visual quality of the existing project area would be somewhat altered by the proposed project. The overall existing visual quality of the project area is considered moderate-low. This is due primarily to the high concentration of built environment and the generally limited natural, open character. The visual quality is moderate at localized areas where there are views of mature freeway landscaping or riparian vegetation at San Marcos Creek. However, most of the project area has relatively low visual quality

where there is an abundance of visible adjacent development with limited roadside landscaping.

New project features such as ramp structures, retaining walls and soundwalls, guardrails, concrete barriers, beyond gore paving, and drainage facilities would shift the existing visual quality to an urban quality. Additional elements of the Build Alternative would require equipment such as gantries, changeable message signs, overhead traffic sensors, video cameras and congestion pricing signage. This would add to the urbanizing effect of the project and reduce visual quality. The prominence of tall trees in the freeway landscape would be permanently lost. To reduce visual impacts, smaller trees would be replanted where space allows, and fencing/walls would be planted with vines. Visual quality would become more coherent and harmonious because walls and structures would have architectural treatment with a consistent corridor theme. To further reduce visual impacts, masonry soundwalls, and concrete features such as drainage ditches, vegetation control and beyond gore paving would be a tan color.

Collectively, the 'moderate' change in visual resources combined with the 'moderate' viewer response to changes indicates the project would cause a 'moderate' visual impact with the inclusion of impact avoidance measures as project features.

Temporary visual impacts may occur due to the contractor's operations such as contractor yards, or batch plants. The potential location of contractor use areas would be determined during the project design phase. Contractor use areas would be returned to original condition after the contractor vacates the site.

2.1.9.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans and the FHWA mandate that a qualitative/aesthetic approach should be taken to address visual quality loss in the project area. This section describes additional avoidance, minimization, and/or mitigation measures to address specific visual impacts. These will be designed and implemented with concurrence from the District Landscape Architect.

The following measures to avoid or minimize visual impacts will be incorporated:

Undercrossing Widening

AES-1: Bridge abutments will be of the same type on all four quadrants to give widened undercrossing(s) a symmetrical appearance.

AES-2: Bridge widening will be done using box girder construction wherever possible.

AES-3: Bridge girders will be similar in appearance on both sides of the bridge to produce a symmetrical appearance wherever possible.

AES-4: Walls and concrete barriers will include aesthetic features consistent with freeway corridor themes.

AES-5: Sidewalks are provided on both sides of the street wherever possible and join existing sidewalks.

AES-6: Pedestrian lighting, including bridge soffit lighting, will be provided at each undercrossing as recommended by District Electrical Design.

Direct Connector Ramp

AES-7: The ramp design will incorporate I-15 corridor aesthetic themes for column shape, sloped exterior girders, and bridge barrier tile texture.

AES-8: Ramp retaining walls will incorporate I-15 corridor aesthetic themes for wall textures (swirled plaster or Mechanically Stabilized Earth (MSE)) and include wall caps. The MSE wall design and precast panels will look like the existing MSE walls at the Rancho Bernardo Direct Access Ramp.

Slope Paving

AES-9: Slope paving at bridge widening will match the color and texture of adjacent existing slope paving.

AES-10: Slope paving at SR 78 will be slope paving (rock cobble) and match the Arizona River Rock slope paving at the Nordahl Road OC or will match adjacent paving.

Miscellaneous Paving

AES-11: Beyond gore paving and paved narrow areas shall be integrally colored tan concrete with an exposed aggregate finish or broom finish. The concrete color will be Davis Colors: Palomino #5447; Scofield Colors: Sombrero Buff #C-25; or Solomon Colors: #288 Straw.

AES-12: Narrow unpaved areas near curb ramps and sidewalks will be paved with mortared cobbles or pebbles (Rock Blanket). The cobble or pebbles shall resemble the colors of Arizona River Rock.

Sound Barriers

AES-13: Sound wall design will be visually compatible with the surrounding community. Architectural detailing such as pilasters, wall caps, interesting block patterns, and curved wall layouts will be used to add visual interest and reduce the apparent height of the walls. Sound wall blocks will be different sizes and textures such as 8x8x16 split face and 10x8x8 smooth blocks with a 10x4x16 smooth cap block. Block color will be "Mission" by RCP Block & Brick, "Otay Brown" by Orco Block, "Dusty Brown" by Angelus Block or equal.

The following sound barrier design options are arranged in order of effectiveness to reduce visual impacts. One or more options could be used at each sound barrier location.

AES-14: Landscaped Sound Berms: Sound barriers will consist of landscaped berms wherever possible. Landscaped berms are the preferred visual mitigation for sound barriers and are more visually compatible with land uses adjacent to the freeway.

AES-15: Sound berm/wall combinations: This barrier configuration is preferable where a tall retaining wall at the toe of slope will create a visual intrusion to an adjacent property. To be effective, this option should incorporate a berm with a 2:1 slope on the freeway side that is 6-foot high (minimum). This size berm should allow enough space to provide screening shrubs in front of the wall.

AES-16: Sound wall landscape buffers: In cases where berms are entirely unfeasible, sound walls should incorporate planting on both sides. In some cases, retaining walls and/or a concrete barrier at the edge of shoulder may be needed to provide the required planting space.

AES-17: Sound wall planting pockets: Where ROW is too narrow to employ the configurations listed above, a minimum 5-foot wide planting area should be provided between the back of the freeway barrier and the face of wall. Sound wall planter pockets are proposed at S745 where space allows.

AES-18: Sound wall/barrier setbacks: In areas too narrow to place a planting pocket, the sound wall should be recessed behind the face of barrier at a sufficient distance to allow architectural features to be included on the face of the sound wall. Avoid placing a noise wall directly on top of a concrete barrier where possible.

AES-19: Transparent noise walls on private property: In situations where noise receptors are located above the elevation of the freeway, transparent sound walls located at the top of slope on the right-of-way line or on private property will be used if the benefited property owner agrees to maintain wall surfaces.

Retaining Walls and Barriers

AES-20: Architectural surface treatment: Walls and concrete barriers will incorporate corridor theme architectural features such as textures, pilasters, and caps. The SR 78 retaining wall theme is based on existing retaining walls at East Barham Drive. Specifically, Dry Stack Rock Texture (aka Chesterfield Dry Stack) on wall and barrier, 4'-wide pilasters and a wall cap. The I-15 retaining wall theme is based on existing walls at I-15 in Escondido, specifically Swirled Plaster Texture on walls, 4'-wide buttress pilasters with buttress cap, and 9" wall cap. Concrete barriers on top of I-15 walls have tile texture with a bullnose cap. At Nordahl Road, handrailing on the barrier at back of sidewalks shall match the design of the existing handrailing at the corner of Nordahl and the onramp to eastbound SR 78.

AES-21: Terrain contoured retaining walls in cut sections: Retaining walls that follow the contours of the topography and maintain a constant elevation at the top of wall will be used where appropriate. Wall layouts and profiles should be composed of long radius curves, with no tangents or points of intersection.

AES-22: Mid-slope retaining walls in cut sections: Retaining walls should be located at mid slope wherever possible in cut sections to provide a buffer area for landscape screening between the wall and the freeway.

AES-23: Top-of-slope retaining walls in fill sections: Retaining walls should be located at the top of slope wherever possible in fill sections to provide a buffer area for landscape screening between the wall and the community.

AES-24: Retaining wall/barrier planting pockets: where retaining walls must be placed close to the traveled way, space should be reserved between the wall and the safety barrier to include a 5' wide planting pocket for vine and shrub plantings. At constrained areas, the minimum planter pocket width for vine plantings is 3 feet between the back of barrier and retaining wall layout line.

AES-25: Retaining wall/barrier setbacks: In areas too narrow for a planting pocket, the retaining wall should be recessed behind the face of barrier at a sufficient distance to allow architectural features such as pilasters on the face of the retaining wall.

Grading

AES-26: Slopes will be graded 1:2 or flatter to support planting and irrigation. Steeper cut slopes may be possible if they are stepped and contain benches wide enough to accept plants from 15-gallon containers. Steeper fill slopes may be possible if geosynthetic reinforced embankment is used.

AES-27: Grading will utilize techniques such as slope rounding to approximate the appearance of natural topography.

AES-28: Berms will be used where space allows to provide visual interest or to screen unsightly views.

Drainage and Water Quality Facilities

AES-29: New concrete headwalls, channels, ditches, and aprons will be colored tan.

AES-30: Detention basins and biofiltration swales shall appear as natural landscape features (ponds or streambeds). Swales will be sodded with irrigated native grass sod.

Access Control Fences and Median Barriers

AES-31: Retaining walls and sound walls near right-of-way boundaries shall be placed in such a way that an additional access control fence will not be needed. The "dead" spaces that occur between walls and fences should be avoided.

Bicycle and Pedestrian Facilities

AES-32: Provide trees for shade within parkways or on adjacent properties along roadways.

AES-33: Where space allows, provide buffers to separate pedestrians and cyclists from moving vehicles. Buffers could be landscaped or paved with enhanced materials such as mortared rock cobble (rock blanket), rock mulches, or colored and textured concrete.

AES-34: Provide wayfinding signage to show distance to key destinations including the Inland Rail Trail Regional Bikeway. Project wayfinding signage could incorporate the Inland Rail Trail Logo if SANDAG concurs.

Landscaping

AES-35: Plantings will be sustainable, drought resistant, non-invasive and adapted to the local climate and rainfall patterns. Trees shall be planted in appropriate locations and densities with consideration of safety and maintenance. Highway planting shall be predominantly California native plant material and ornamental species adapted to a Mediterranean climate. Highway planting shall consist of trees, shrubs, vines, groundcover and hydroseeding. Seeding with CA natives or mulches may be used in place of groundcover as determined by District Landscape Architect. Steep areas of cut in rock will be hydroseeded with a CA native seed mix instead of planting. Vines will be planted on sound walls, retaining walls and chain link fencing where space allows. The plant and seed species will be approved by the District Landscape Architect. Revegetated areas adjacent to native habitat will be designed in consultation with the district biologist. Landscaping and habitat restoration areas will be irrigated with recycled water wherever possible.

AES-36: Loss of shrubs and ground cover along the edge of freeway shall be mitigated by creating a shrub planting area between a concrete barrier and a wall or fence where space allows.

AES-37: A concrete barrier topped with a chain link railing (CL-Type 7) will be placed at the edge of pavement at eastbound SR 78 east of Nordahl Road. (KV #4), and between eastbound SR 78 and East Carmel Street. The fence will be planted with vines to screen undesirable offsite views. Vines will be planted where space allows. An existing example of a planted barrier with chain link railing is at the eastbound onramp from Via Vera Cruz above Grand Avenue in San Marcos.

AES-38: Street trees in Caltrans ROW will be planted where space allows and only if the city agrees to maintenance.

AES-39: Landscaping in City of San Marcos ROW for the Barham Drive/Woodland Avenue improvements will be coordinated with the city. Plant species and landscape area treatments will be coordinated with the city. Landscaping will be drought-resistant, sustainable and must be irrigated by water provided by the city. Raised center medians will be paved with colored stamped concrete, mortared rock cobble or planted in consultation with the city. The parkway between the sidewalk and curb will be covered with rock mulches, decomposed granite or rock cobble. Street trees and plants will be planted if the city agrees to provide water and maintenance after the plant establishment period. Street trees must be irrigated with a bubbler system.

AES-40: Where space allows, landscaping will be used for screening unsightly adjacent land uses while protecting views to landmarks and natural features.

AES-41: A concrete safety barrier at the edge of pavement is required to create a planter pocket in narrow areas between the freeway and proposed walls or fencing. Creating space for trees, shrubs, and vine plantings is required for visual mitigation. The design phase will study the use of concrete barriers at the following locations with the goal of creating planter pockets to the extent possible: For westbound SR 78: from the I-15 connector ramp to Nordahl Road (Sta 849- 880); from Nordahl Road to soundwall S825 (Sta 830-847); between walls (Sta 802-807); along the offramp to Woodland Parkway and Sta 745-765. For eastbound SR 78: Sta 806-812 and Sta 840-844.

AES-42: Trees removed by the project will be replanted at a 2:1 replacement ratio. Tree replanting will occur within the project limits where space allows.

Landscape Protection

AES-43: Protect vegetation outside of the grading limits and contractor use areas by designating these areas as “Landscape Protection Areas”.

AES-44: No equipment, material storage, or vehicles are allowed under the dripline of trees outside of the grading limits.

AES-45: Avoid trenching under tree canopies to preserve existing trees.

AES-46: Contractor use areas shall be located and designed to preserve trees. Plans shall show “protected” trees as a single tree or group of trees. The “protected” tree location and canopy shall be based on survey plans.

AES-47: Clearly mark the limits of “Landscape Protection Areas” and “Protected Trees” with a temporary protection fence using ropes and stakes to prevent contractor access.

2.1.10 CULTURAL RESOURCES

2.1.10.1 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 Caltrans went into effect for Caltrans 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 Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans 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. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)⁴ between Caltrans and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA would satisfy the requirements of PRC Section 5024.

⁴ The MOU is located on the SER at <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/5024mou-15-a11y.pdf>

2.1.10.2 Affected Environment

The information in this section is based on the Historic Property Survey Report (HPSR) (AECOM 2024), the Archaeological Survey Report (ASR) (AECOM 2024), and the Extended Phase I Report (XPI) (AECOM 2024).

The Area of Potential Effects (APE) established for the proposed project encompasses all areas in which the Project has potential to directly or indirectly alter the character or use of historic properties and includes the limits of disturbance of permanent and temporary project construction activities. The archaeological APE includes the entire ROW between postmile 12.6 to postmile 16.7 on SR 78 and from postmile 30.6 to post mile 32 on I-15. The Built Environment APE includes the entire ROW from postmile 12.6 to postmile 16.7 on SR 78, and from postmile 30.6 to postmile 32 on I-15, in addition to entire parcels touched by the project's permanent footprint. This APE also includes partial slivers of properties that would be used for Temporary Construction Easements (TCEs).

The prehistory of the San Diego region often is divided into three periods: Early Prehistoric Period (San Dieguito tradition/complex), Archaic Period (Milling Stone Horizon, Encinitas tradition, La Jolla and Pauma complexes), and Late Prehistoric Period (Cuyamaca and San Luis Rey complexes). In San Diego County, the Early Period dates from 10,000 to 8,600 years ago, while the Archaic Period dates from 8,600 years ago to 1,300 years ago. The Late Period dates from 1,300 years ago to historic (Spanish) contact. The Historic Period covers the time from Spanish contact to present.

A records search of the Caltrans Cultural Resource Database (CCRD) was conducted for the APE. The results indicated that 26 archaeological resources have been previously identified within a one-mile radius of the APE. Of these, one resource was located within the APE. An additional records search was completed at the South Coastal Information Center, located at San Diego State University, part of the California Historical Resources Information System, on January 3, 2022. The results similarly indicated one resource as being located within the APE.

An intensive-level archaeological survey of the APE was performed on July 9, 2021, April 28, 2022, and November 16, 2022, where the APE was accessible and permission to enter was obtained from the parcel owners. A reconnaissance survey was completed on April 28 and November 16, 2022 for paved portions of the APE within the Caltrans ROW. A subsequent survey was completed by AECOM on July 21, 2023, to review the area anticipated for an Extended Phase I excavation. The archaeological surveys covered 100% of the proposed ground disturbance locations within the APE.

In total, one resource was identified in the APE:

- P-37-012096

The archaeological portion of site P-37-012096, which contains evidence of both a prehistoric site and a historic-age building foundation, has been previously evaluated

under the NRHP and CRHR criteria for evaluation, and was recommended as not eligible under Criterion D (Guerrero and Gallegos 2007). Additional Extended Phase I (XPI) studies at the site (AECOM 2024) yielded an absence of any remaining subsurface cultural deposit. No artifacts were observed or recorded as part of the XPI. The data recovered from the XPI do not support the site's eligibility for listing in the NRHP or CRHR under Criterion D/4. The site has not been evaluated under Criteria A/1, B/2, or C/3, but it would be assumed eligible for the NRHP under A, B, and C for the purposes of the project.

Tribal Coordination

Native American consultation efforts for this proposed project included a review of the Sacred Lands File by the Native American Heritage Commission (NAHC), which produced negative results in a letter dated October 21, 2020. The NAHC provided a list of 20 Native American representatives who may have interest in or knowledge of the proposed project area. These individuals were contacted by letter in October 2020. Three groups, including the Pauma Band of Luiseño Indians, the San Luis Rey Band of Mission Indians, and the Rincon Band of Luiseño Indians, responded and said that the project APE was sensitive for cultural resources and recommended monitoring.

The San Luis Rey Band of Mission Indians met with Caltrans staff on three occasions between 2021 and 2023, providing information about the project. The San Luis Rey Band of Mission Indians did request cultural and Native American monitoring throughout the project.

Between 2022 and 2023, the Rincon Band of Luiseño Indians were provided with an update on the status of the project and an opportunity to review the Extended Phase I proposal for the project. As a result, Rincon indicated they were interested in providing Native American monitoring for the Extended Phase I testing. During consultation with the Rincon, site P-37-012096 was identified as a contributing element of a much larger and yet to be defined Tribal Cultural Property (TCP)/Tribal Cultural Landscape (TCL). Rincon considers this resource to be eligible for the NRHP under Criteria A, B, and C. The extent and exact boundaries of the TCP/TCL are not currently defined by Rincon, and site P-37-012096 would be the only contributing feature of the proposed TCP/TCL within the APE. The Caltrans Cultural Studies Office (CSO) approved the assumption of eligibility for site P-37-012096 for the purposes of the project in accordance with Stipulation VIII.C.4 of the Section 106 PA.

2.1.10.3 Environmental Consequences

No-BUILD ALTERNATIVE

Under the No-Build Alternative, no improvements would be made within the proposed project site, including no improvements to the existing infrastructure. As such, there would be no impacts to any historical or archaeological resources.

BUILD ALTERNATIVE

The results of the HPSR (AECOM 2024) indicate that one cultural resource (P-37-012096) is identified within the APE and is recommended eligible for listing on the NRHP or CRHR for the purposes of the project. The resource would be protected by the establishment of an ESA, archaeological and Native American monitoring, controlled grading within the archaeological monitoring area (AMA), and Cultural Resources Sensitivity Training to prevent any inadvertent impacts during construction. Therefore, the proposed project achieves a finding of No Historic Properties Affected with implementation of nonstandard conditions (SHPO concurrence received December 6, 2024). In addition, the ASR (AECOM 2024) and XPI investigation (AECOM 2024) determined that the project does not exhibit archaeological sensitivity and the potential to encounter intact archaeological deposits is low.

While there may be some potential to encounter previously unknown resources, adverse impacts will be minimized or avoided through the implementation of the AMMs discussed below.

2.1.10.4 Avoidance, Minimization, and/or Mitigation Measures

The following AMMs would be implemented to reduce adverse effects on cultural resources under the Build Alternative:

CR-1: If cultural materials are discovered during construction, all earthmoving activity within 60 feet of the discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.

CR-2: If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the county coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the NAHC, which would then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains would contact the District 11 Native American Coordinator so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC Section 5097.98 are to be followed as applicable.

CR-3: The establishment of ESAs shall protect elements of the resource in place for the duration of the Project. The ESAs would be marked on Plans and delineated in the field by an Archaeologist and Native American Monitor.

CR-4: Archaeological Monitor(s) as assigned by Caltrans and Native American Monitor(s) shall monitor all ground disturbing construction related activities within the AMAs established for the project.

CR-5: Controlled grading in shallow lifts as field conditions warrant and in coordination with the Resident Engineer shall be required in the cut bank area within the AMA to allow adequate Archaeological Monitoring within the AMA.

CR-6: Cultural Resources Sensitivity Training shall be required for all personnel working on the project during construction. The Archaeological Monitor assigned by Caltrans would deliver this training. Materials for the training would be provided by Caltrans in the event the Archaeological Monitor is not available to deliver training.

2.2 Physical Environment

2.2.1 HYDROLOGY AND FLOODPLAIN

This section describes the regulatory setting associated with hydrology and floodplains, the affected environment, the environmental consequences on hydrology and floodplains that would result from the project, and the minimization and/or mitigation measures that would reduce any potential impact. Additionally, the information in this section is based, in part, on the Biological Assessment (March 2024), Natural Environmental Study (NES) (December 2024), the Stormwater Data Report (August 2024), and the San Marcos Creek Location Hydraulic Study (April 2025) all prepared by Caltrans.

2.2.1.1 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 of 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.

23 CFR 650 Subpart A defines the base flood as the flood or tide having a one percent chance of being exceeded in any given year.” The base floodplain is defined as “the area subject to flooding by the base flood.” An encroachment is defined as “an action within the limits of the base floodplain.”

In addition to being a natural phenomenon, a floodplain is a legally defined concept. The Federal Emergency Management Administration (FEMA) designates floodplains nationwide. Floodplains are any land area that FEMA has determined has a least a one percent chance in any given year of being inundated by floodwaters from any source. The Floodway is the channel of a river or other watercourse and the adjacent land areas

that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Floodways are contained within Floodplains. Within the project limits, FEMA has designated a Floodway and Floodplain for San Marcos Creek (Creek). Proposed improvements to highways anticipated to be within the limits of the base floodplains must include floodplain evaluations. A Location Hydraulics Study is used to determine if proposed improvements would encroach on a base floodplain and include evaluations of the risks associated with the implementation of the proposed action.

2.2.1.2 Affected Environment

The San Marcos Creek watershed originates just east of I-15, north of Escondido. Portions of the watershed is located within the cities of San Marcos, Encinitas and Carlsbad, and drains into the Batiquitos Lagoon before reaching the Pacific Ocean. The watershed encompasses a total of 34,246.04 acres. It is part of the Carlsbad Watershed Management Area (WMA). In total the San Marcos Creek watershed is 72% developed and 28% open space or undeveloped land. On the northern reaches of the water the primary land uses are agriculture, residential, and urbanized uses.

The creek is located in the USGS hydrologic basin San Marcos Creek, the Hydrologic Unit Code (HUC) is 180703030503 and the San Diego Regional Water Quality Control Board (RWQCB) hydraulic unit (HU) 904.52 - Richland Unit.

Within the project area, San Marcos Creek is located along SR 78 between approximate PM 12.1 to 13.0. At the upstream end, the creek is adjacent to SR 78 at the westbound (WB) on-ramp from southbound (SB) Twin Oaks Valley Rd. The creek continues to run adjacent to SR 78 in the westerly direction until just east of the WB off-ramp to San Marcos Creek Blvd. At that point, the creek turns in the southerly direction to enter an existing quintuple 10 foot by 8-foot Reinforced Box Culvert (RCB) that travels under SR 78 at a 45-degree skew to the west and daylights at the edge of fill on the south side of SR 78. At the inlet of the existing RCB, the creek experiences what is known as a split flow. A split flow is a situation where floodwaters flowing in a single well-defined flow path split and follow two or more paths separated by areas of dry land. The separated floodwaters flow independently for some distance and then merge with the floodwaters from the main channel. For the creek, the main channel portion of the floodwaters enters the existing RCB and travels through the RCB to the southern side of SR 78 flowing in the south westerly direction. The split flow portion of floodwaters splits off of the main channel at the inlet of the existing RCB, then flows in the westerly direction along the WB off-ramp to San Marcos Blvd. The split flow floodwaters then flow along San Marcos Blvd. in the south westerly direction, until near S Bent Ave. Near S Bent Ave. the floodwater veers in the south westerly direction off of San Marcos Blvd. through private property where it joins the main channel just upstream of Via Vera Cruz. The merged floodwaters then continue in the south westerly direction downstream toward Lake San Marcos.

The Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map (FIRM) and Effective study is available for San Marcos Creek. The FIRM Map

Base Flood elevation (BFEs) for a zone AE is show on the FIRM mapping and mandatory Flood insurance purchase requirements and floodplain management standards apply.

NO BUILD ALTERNATIVE

The No Build Alternative would not change the existing physical environment; therefore, the No Build Alternative would not result in any temporary or permanent floodplain encroachment.

BUILD ALTERNATIVE

Permanent Impacts

The Build Alternative includes widening for one additional buffer separated HOT lane in both directions. The improvements proposed just east of San Marcos Blvd to Twin Oaks Valley Rd are within a FEMA defined Floodway and Floodplain for the Creek.

The widening through the FEMA defined Floodway and Floodplain is achieved by sliver fills and sliver cuts on the existing outside hinge of the eastbound (EB) SR 78 from just east of San Marcos Blvd on-ramp to EB SR 78 to just east of the Twin Oaks Valley Rd overcrossing. As the SR 78 freeway itself is defined as a portion of the Floodway and Floodplain, by widening the freeway, this effectively widens the cross-sectional area available to the Floodway and Floodplain. A geometric analysis was performed as part of the approved Location Hydraulic Study (LHS) to determine the impacts of the proposed widening improvements on the Floodway and Floodplain. The geometric analysis found that the proposed project would have an insignificant impact on the existing floodplain. Further, as the project does not propose improvements to the floodway, no floodway impacts would occur. Further, no longitudinal floodplain encroachments would occur, consistent with EO 11988, as described above.

The proposed project would result in minor improvements to existing transportation facilities that already exist partially within base floodplains. No commercial development, urban growth, or other incompatible uses would be introduced by the project in the 100-year floodplain. No new access to land located within the floodplain would be created that would indirectly support any incompatible development. Thus, no incompatible floodplain development would occur. Based on the geometric analysis, the proposed improvements on eastbound State Route 78 constitutes an insignificant impact on the FEMA regulated Floodplain and no impact to the Floodway. The technical information for the LHS form (HDM Figure 804.7), that summarizes the floodplain information is shown in Exhibit G in the Hydraulic Study. Additionally, the proposed improvements were developed by using the minimum roadway design standards as stated in the Highway Design manual thereby minimizing impacts to the existing floodplain.

2.2.1.4 Avoidance, Minimization, and/or Mitigation Measures

As no floodplain encroachment would occur, no AMMs are required.

2.2.2 WATER QUALITY AND STORMWATER RUNOFF

2.2.2.1 Regulatory Setting

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 source⁵ 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 would comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 established the NPDES, a permitting system for the discharges (except for dredge or fill materials) 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.

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

⁵ A point source is any discrete conveyance such as a pipe or a man-made ditch.

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 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 effluent⁶ 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 the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulations 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.

The State Water Resources Control Board (SWRCB) the 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 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

⁶ The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

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. RWCQB 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 Department 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’ MSR Permit, Order No. 2012-0011-DWQ (adopted September 19, 2012, and effective on July 2, 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:

- Caltrans must comply with the requirements of the Construction General Permit (see below);
- Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
- 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 permits, 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 that 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 would be programmed to follow the guidelines and procedures outlined in the latest SWMPs to address storm water runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (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's 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 would 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 benefitting water quality. WDR's can be issued to address both permanent and temporary discharges of a project.

2.2.2.2 Affected Environment

Information in this section is based on the Stormwater Date Report (SWDR) (December 2024), and the Location Hydraulic Study (April 2025), both prepared by Caltrans.

Based on a review of the San Diego Regional Water Quality Control Board (SDRWQCB) the eastern portion of the Project area is within the Escondido Hydrologic Sub Area (904.62) of the Escondido Creek Hydrologic Area (904.60), while the western portion is within the Richland Hydrologic Sub Area (904.52) of the San Marcos Hydrologic Area (904.6). Both areas are within the Carlsbad Hydrologic Unit (904.62).

The City of San Marcos is underlain by a small ground water basin, identified by the California Department of Water Resources (CDWR) as the San Marcos Groundwater Basin; groundwater in the City is not considered to be a major water source. In the City of Escondido, minimal groundwater sources are found, and most ground water wells are privately owned and maintained. Further, the City of Escondido does not participate in any groundwater withdraw, storage, or replenishment programs.

The project falls within the Escondido Creek and the San Marcos Creek watersheds. The Escondido Creek crosses under I-15 as a concrete-lined channel at PM 30.85. A tributary of San Marcos Creek crosses under SR 78 and at the proposed Barham Drive reconfiguration at PM 14.1.

The tributary to the San Marcos Creek at the proposed Barham Drive interchange is listed on the National Wetland Inventory as a R4SCB Riverine Wetland. The project area falls within the Escondido Creek and the San Marcos Creek watersheds. The Escondido Creek crosses under I-15 as a concrete-lined channel at PM 30.85. The southern riparian woodland habitat of San Marcos Creek crosses under SR 78.

The Build Alternative is located within the County of San Diego's Carlsbad Watershed Management Area. The Carlsbad Watershed Management Area (WMA) is comprised of six (6) distinct hydrologic areas covering a land area of 211 square miles. There are numerous important surface hydrologic features within the Carlsbad WMA including four unique coastal lagoons, three major creeks, and two large water storage reservoirs. The two nearest hydrologic areas from the project site are San Marcos Creek (904.5) and Escondido Creek (904.6)

The primary drainage in the project corridor is San Marcos Creek. San Marcos Creek traverses generally parallel to westbound SR 78 from approximately Twin Oaks Valley Road. The creek jobs southwest beneath SR 78 approximately 1,000 feet east of West San Marcos Boulevard. Escondido Creek traverse in a northeast to southwest direction

crossing the Project area beneath I-15 just north of West Valley Parkway. Both San Marcos and Escondido Creeks continue southwest to Batiquitos Lagoon and the Pacific Ocean.

The project area is in a relatively flat area, inland of Encinitas and Carlsbad with rolling hills to the north and east that facilitate the passage of water from the San Marcos and Escondido Creek Regions. The elevations along SR 78 within the project area range from approximately 562 ft to 667 ft. Storm water runoff from the west portion of the project area is captured, treated, and discharged into San Marcos Creek which runs through Lake San Marcos and discharges to Batiquitos Lagoon. Storm water runoff from the east portion of the project area is captured, treated, and discharge into Escondido Creek, and then discharged to San Elijo Lagoon. From both Batiquitos Lagoon and San Elijo Lagoon, storm water outlets to the Pacific Ocean. Lake San Marcos, Upper San Marcos Creek, Lower San Marcos Creek, and Escondido Creek are listed as impaired water bodies under the Category five (5) 2020-2022 California 303(d) List of Water Quality Limited Segments. The project discharges into San Marcos and Escondido Creek before outletting to the Pacific Ocean.

There are no drinking water reservoirs within the project limits. Project area runoff does not discharge directly into municipal or domestic water supply reservoirs or lakes identified in the San Diego RWQCB's Water Quality Control Plan for the San Diego Basin (San Diego Region Basin Plan) (2021). The San Marcos Area groundwater basin is within the project site as identified in basin boundary maps provided by the California Natural Resources Agency.

2.2.2.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would have no effect on water quality and stormwater runoff conditions in the area.

BUILD ALTERNATIVE

The project is estimated to result in 57.04 acres of total Caltrans disturbed soil area and approximately 44.2 acres of new Caltrans impervious surface. The new local impervious surface area (outside of Caltrans ROW) would be 7.24 acres, which is defined as both replaced and net new impervious surface area. Water quality effects during construction could result from stormwater runoff leaving construction sites and causing erosion or sedimentation or conveying pollutants into nearby waterways.

The portion of the project within the City of San Marcos and the City of Escondido ROW would be governed by the San Diego Regional Water Quality Control Board (RWQCB). The portion of the project in the Caltrans ROW would be governed by Caltrans District 11 standards. The project is located in San Diego County, in the Cities of San Marcos and Escondido, which is part of the Phase 1 National Pollutant Discharge Elimination System (NPDES) MS4 Permit. Storm water runoff from the west portion of the project would be captured, treated, and discharge into San Marcos Creek which runs through

Lake San Marcos and discharges to Batiquitos Lagoon. Storm water runoff from the east portion of the project would be captured, treated, and discharged into Escondido Creek, and then discharged to San Elijo Lagoon. From both Batiquitos Lagoon and San Elijo Lagoon, storm water outlets to the Pacific Ocean.

Water quality effects during construction could result from stormwater runoff leaving construction sites and causing erosion or sedimentation or conveying pollutants into nearby waterways. Construction of the Build Alternative would occur in compliance with Caltrans' Statewide NPDES Permit (Order No. 2012-0011-DWQ, NPDES Permit No. CAS000003) and the Statewide General NPDES Permit for Construction Activities (Order No. 2022-0057-DWQ, NPDES Permit No. CAS000002), which regulate stormwater and non-stormwater discharges. The construction contractor would be required to develop, implement, and maintain a SWPPP that (1) meets the requirements of the Construction General Permit and identifies potential pollutant sources associated with construction activities; (2) identifies non-stormwater discharges; and (3) identifies, implements, and maintains BMPs to reduce or eliminate pollutants associated with the construction sites. Implementation of BMPs would reduce long-term water quality impacts due to construction of the Build Alternative. A 401-water quality certification is anticipated as the US Fish and Wildlife Service National Wetlands Inventory shows four (4) Wetlands crossing the project limits. This would be verified by an environmental survey in the future project design phases.

The majority of impervious surfaces proposed by the Build Alternative would replace existing impervious surfaces such as paved roadways. However, the Build Alternative would result in a net increase in impervious surface area (approximately 7.24 acres of new local impervious service and approximately 44.2 acres of new Caltrans impervious surface) and stormwater runoff due to the addition of the Express Lanes. The increase in stormwater runoff would be minimal in relation to the amount of impervious surfaces that currently exists in the highly-developed project area. Additionally, some of the increase in runoff would be offset by the addition of new landscaped areas. Nonetheless, permanent treatment BMPs would be evaluated in compliance with the guidelines and procedures outlined in the latest Stormwater Data Report and Appendix E of the Caltrans Project Planning and Design Guide to address stormwater runoff, or relevant local standards where applicable. Adhering to existing regulations and implementing standard BMPs would ensure that no adverse water quality effects occur due to increased runoff from the Build Alternative.

Areas prone to erosion were not identified within the project limits. Groundwater levels are subject to change based on tidal and seasonal effects, irrigation, and rainfall. Site specific borings would be completed during future project design phases. Slopes are planned to be no greater than 2:1, compacted as specified in the Caltrans Standard Specifications, and stabilized using the permanent erosion control measures to be specified during the design phase. Temporary construction site BMPs would be employed to prevent any construction material from entering the receiving water bodies.

2.2.2.4 Avoidance, Minimization, and/or Mitigation Measures

The following AMMs would be implemented to reduce adverse effects on water quality and stormwater runoff under the Build Alternative:

WQ-1: The project has incorporated storm drain systems to facilitate meeting water quality requirements and for stormwater management, which would minimize erosion and degradation of habitat downstream of the bridge.

WQ-2: The limits of grading and temporary work areas would be demarcated with construction exclusion fencing for all areas of natural communities of special concern to avoid unintentional encroachment into these sensitive areas. Signage would be posted identifying the excluded areas as ESAs.

WQ-3: Staging/storage areas for construction equipment and materials would be located away from streams and drainages and no equipment maintenance should be performed near these areas to minimize the potential for pollution runoff. Soils from construction grading would also be stockpiled away from riparian areas to minimize potential erosion and sedimentation into the waterways.

WQ-4: Spoils, trash, or any debris would be removed offsite to an approved disposal facility.

WQ-5: Standard fugitive dust BMPs, e.g., a water truck, are recommended to reduce effects of construction-generated erosion and sedimentation into the adjacent ESAs.

WQ-6: Where applicable, implement all relevant BMPs as required by a Storm Water Pollution Prevention Plan and the NPDES.

WQ-7: BMPs would be implemented to ensure invasive plant material is not spread from the project site to other areas by disposal off-site or by tracking seed on equipment, clothing, and shoes. Equipment/material imported from an area of invasive plants must be identified and measures implemented to prevent importation and spreading of nonnative plant material within the project site. All construction equipment would be cleaned with water to remove dirt, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds before arriving to and leaving the project site. Weeds removed would be appropriately bagged and disposed of in a sanitary landfill.

2.2.3 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

2.2.3.1 Regulatory Setting

The Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features” such as geologic and topographic 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 Caltrans's Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification would determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, see the Caltrans's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

2.2.3.2 Affected Environment

Regional Geology

The proposed project is located within the Peninsular Ranges Geomorphic Province a group of mountain ranges that stretch over 900 miles from the Los Angeles Basin to the southern tip of the Baja California, Mexico peninsula.

The Peninsular Ranges are characterized by northwest trending mountain ranges, valleys, faults and fault zones that extend sub-parallel to the San Andreas Fault and bounded on the north by the Transverse Ranges Geomorphic Province, and the Colorado Desert Geomorphic Province on the east. The underlying rock is varied with older Mesozoic age (252-66 million years old) igneous and metamorphic rock in the east while the western coastal plains are underlain by younger Cenozoic (<66 million years old) sediments.

Topography

The general topographic relief of the project area is a mix of rolling hills, creeks, and valleys with Merriam Mountains to the north and Double Peak and Frank's Peak to the south. The elevation in the project area ranges from approximately 580 feet above mean sea level (msl) in the general area of West San Marcos Boulevard, increasing to 700 feet above msl toward the eastern limits in the general area of the I-15 and SR 78 interchange.

Soils

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) and the National Soil Information System (NASIS) identified soils in the project area as primarily coarse to fine well-drained sandy loams (USDA). Alluvium fill, material that accumulates as the result of erosion of basement rock formations, is also found in the project area and around San Marcos Creek according to the City of San Marcos General Plan Safety Element, and San Marcos General Plan Existing Conditions Report (2021), and the City of Escondido General Plan EIR (2012).

Faulting and Seismicity

The entire Southern California region is seismically active due to the influence of several earthquake fault systems resulting from interaction between the Pacific and

North American crustal plates. An active fault is defined by the State of California as a “sufficiently active and well-defined fault that has exhibited surface displacement within the last 11,000 years.” A potentially active fault is defined by the State as a “fault with a history of movement between 11,000 and 1.6 mya (million years ago).”

The City of San Marcos and the City of Escondido are not within a State Alquist-Priolo Earthquake Fault Zone; consequently, the risk of surface rupture in the project area is low. The largest fault in the San Diego region is the San Andreas, located approximately 70 miles east of the Project site. Local active faults that have the potential to cause shaking the Project area include the San Jacinto Fault, approximately 25 miles east of the Project area, the Elsinore Fault, approximately 20 miles east, and the Rose Canyon Fault, approximately 23 miles southwest of the Project area. These faults have the potential to general large magnitude earthquakes that would be felt in the Project area.

No known active or potentially active faults traverse either the City of San Marcos (Geologic Hazards map, 2020) or the city of Escondido (Seismic & Geologic Hazards map, 2021); however, nonactive faults may be present, and potential surface and blind thrust faults may impact the Project area.

Landslides

Landslides are rock, earth, or debris flows on slopes due to gravity. Landslides constitute a major geologic hazard because they are widespread and can cause substantial damage to life and property. The expansion of urban and recreation uses into hillside areas leads to more people being potentially threatened by landslides annually. Although landslides commonly occur in connection with other major natural disasters (e.g., earthquakes, volcanoes, wildfires, and floods), they can occur on any terrain given the right conditions of soil, moisture, and angle or slope. Steep, bare slopes, clay-rich rock, deposits of stream or river sediment, and heavy rain can also contribute to landslides.

Based on the City of Escondido General Plan (Seismic & Geologic Hazards map, 2021) the Project area does not have slopes greater than 25% and is not identified as a Landslide Hazard Area. Similarly, the City of San Marcos General Plan Safety Element (2020), finds the Project area generally has no soil slippage susceptibility, except for small areas with low susceptibility adjacent to SR 78, along Barham Drive, around the SR 78/Rancheros Drive on/off-ramp, and north and south of SR 78, between Bennett Avenue and Nordahl Road, and between SR 78 and Montiel Road between Nordahl Road and the city limit.

Liquefaction and Lateral Spreading

Soil liquefaction occurs when saturated, loose soils lose their strength due to excess water in the soils. The space between the soil particles is completely filled with water which exerts pressure on the soil particles, thereby influencing how tightly the soil particles are pressed together. Prior to an earthquake, the water pressure is relatively low. However, the shaking caused by an earthquake can cause the water pressure to

increase to the point where the soil particles can readily move with respect to each other. When liquefaction occurs, the strength of the soil decreases and the ability of the soil to support building and bridge foundations is reduced. The potential effects of liquefaction may include settlement of the ground surface, additional forces pushing down on foundation piles as a result of soil settlement of the liquefaction layers, and reduction of the shear strength of the liquefied soil, resulting in reduced load-carrying capacity. Liquefied soils can also exert pressure on retaining walls, which can cause them to tilt or slide.

The three primary factors affecting the possibility of liquefaction in a soil deposit are (1) the intensity and duration of the seismic shaking, (2) the soil type, mainly low-density granular deposits, and (3) shallow groundwater (within 40 feet of the ground surface). Lateral spreading occurs when a layer of soil liquefies at depth, reducing soil strength, and causing horizontal movement or displacement. Lateral spreading can occur in areas with liquefaction potential.

The potential for liquefaction and lateral spreading in the Project area is low. The City of Escondido General Plan (Seismic & Geologic Hazards map, 2021) does not identify the Project area as a Liquefaction Hazard Area. Similarly, the City of San Marcos General Plan Safety Element (2020), finds the Project area generally has no liquefaction susceptibility, except for small areas with low susceptibility adjacent to SR 78, along Barham Drive, around the SR 78/Rancheros Drive on/off-ramp, and north and south of SR 78, between Bennett Avenue and Nordahl Road, and between SR 78 and Montiel Road between Nordahl Road and the city limit (City of San Marcos General Plan Safety Element, 2020). Further, the project area is not with a State designated Seismic Hazard Zone (Seismic Hazards Mapping Act 2023) for areas prone to liquefaction and earthquake-induced landslides.

2.2.3.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and ramps. Under the No Build Alternative, no improvements would be constructed, and impacts to geology, soils, seismic, or topography would occur.

BUILD ALTERNATIVE

As noted above, the project area is not located in an Alquist-Priolo Fault Special Studies Zone. Therefore, fault rupture potential is remote. Although there are no known active faults within, adjacent, or near the project area, moderate to large earthquakes are probable along several known active faults in the region and as such, ground-shaking hazards may occur due to earthquake activity on known faults.

Further, the project area is relatively flat and is not with a State designated Seismic Hazard Zone (Seismic Hazards Mapping Act 2023) for areas prone to liquefaction and

earthquake-induced landslides; no hazards related to liquefaction or landslides are expected.

The project would be designed and constructed to meet all Caltrans and local engineering design standards to minimize geologic and seismic hazards and would not expose people or structures to adverse effects of seismic activities, landslides or liquefaction beyond the existing level already present within the project area.

2.2.3.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization and/or mitigation measures would address potential impacts to geology, seismic and soils resources.

GEO 1 – The design of the proposed project complies with all applicable Caltrans guidelines with respect to seismic design.

2.2.4 PALEONTOLOGY

This section describes the regulatory setting, affected environment, environmental consequences on paleontological resources that would result from the proposed project, and minimization and/or mitigation measures that would reduce any potential impacts.

2.2.4.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life preserved in the geologic record as fossils. Many federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. The following laws and regulations are applicable to this project:

- 16 U.S.C 431-433 (the “Antiquities Act”) prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered “objects of antiquity” by the Bureau of Land Management, the National Park Service, the Forest Service, and other federal agencies.
- 23 U.S.C. 1.9(a) requires that the use of federal-aid funds must be in conformity with federal and state laws.
- 23. U.S.C. 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 U.S.C. 431-433 above and state law.

Under California law, paleontological resources are protected by CEQA.

2.2.4.2 Affected Environment

To assess impacts to potential paleontological resources arising from the proposed Project, a Paleontological Identification Report (PIR) and Paleontological Evaluation Report (PER) were prepared for the Project. The results of these studies indicate that portions of the project limits are located within sensitive geologic units/formations for buried paleontological resources (old alluvial flood plain deposits).

2.2.4.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would have no effect on paleontological resources.

BUILD ALTERNATIVE

Project construction activities may result in adverse effects on buried paleontological resources. Compliance with Caltrans BMPs and standard measures during ground-disturbing activities, including those set forth in Section 14-7 – Paleontological Resources of the 2022 Standard Specifications, would ensure that construction contractors are informed of appropriate actions to take if unanticipated resources are encountered during construction.

To mitigate potential impacts to buried paleontological resources, Paleontological Mitigation Plan (PMP) was developed to avoid adverse effects to buried paleontological resources.

2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measures would be implemented to ensure there are no impacts to paleontological resources:

PALEO-1: A qualified paleontologist would attend the Project's pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of San Diego County, California, and who has worked as a paleontological mitigation project supervisor in the region for at least one year.

PALEO-2: Prior to the start of construction, the qualified paleontologist or qualified paleontological monitor shall present a training workshop on paleontological resources ("tailgate meeting") to ensure that all earth excavation personnel understand paleontological monitoring requirements, the roles and responsibilities of paleontological monitors, and the appropriate action to be taken in the event of a discovery of paleontological resources. A qualified paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.

PALEO-3: A paleontological monitor, under the direction of a qualified paleontologist, would be on site on a full-time basis during the original cutting of previously undisturbed deposits of high sensitivity paleontological resources to inspect exposures for contained fossils. As grading progresses, the qualified paleontologist and paleontological monitor would have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources is lower than anticipated.

PALEO-4: During the monitoring and recovery phases of the PMP, the qualified paleontologist and/or paleontological monitor would also routinely collect stratigraphic data such as lithology, the vertical and lateral extent of strata, the nature of upper and lower contacts, and the taphonomic character of exposed strata (i.e., the study of decaying organisms over time and how they become fossilized). Collection of such data is critical for providing a stratigraphic context for any recovered fossils.

PALEO-5: When fossils are discovered, the paleontologist (or paleontological monitor) would recover them appropriately. In most cases, fossil salvage can be completed in a relatively short period of time, although some fossil specimens (such as a complete large mammal skeleton) may require a more extended salvage period. In these instances, the paleontologist (or paleontological monitor) would be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovering of small fossil remains, such as isolated mammal teeth, it may also be necessary to set up a screen washing operation on the site.

PALEO-6: Fossil remains collected during monitoring and salvage would be cleaned (removed of extraneous enclosing sedimentary rock material), repaired (consolidation of fragile fossils and gluing together broken pieces), sorted (separating fossils of the different species), and catalogued (scientific identification of species, assignment of inventory tracking numbers, and recordation of these numbers in a computerized collection database) as part of the mitigation process.

PALEO-7: A final summary report would be completed that outlines the results of the mitigation program. This report would include discussions of the methods used, stratigraphic section(s) exposed and documented, fossils collected and curated, and significance of recovered fossils.

The area where paleontological mitigation is required must be called out in the Project's plans. These areas would be designated as the Paleontological Monitoring Areas (PMAs).

2.2.5 HAZARDOUS WASTE/MATERIALS

This section describes the regulatory setting associated with hazardous waste and materials, the affected environment, the environmental consequences related to hazardous waste and materials that would result from the proposed project, and the minimization and/or mitigation measure that would reduce any potential impact.

Information in this section is from the Aerially Deposited Lead Survey Report (June 2019), the Initial Site Assessment (December 2020), and the Environmental Site Investigation Report (January 2023) prepared for the project.

2.2.5.1 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, the Resource Conservation and Recovery Act (RCRA) of 1976 (RCRA). The purpose of CERCLA, often referred to as “Superfund”, is to identify and cleanup abandoned containment 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
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticides, Fungicides, 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 Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. The following California laws and regulations also address specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste:

- The Porter-Cologne Water Quality Control Act
- Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste
- Title 23 Waters
- 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 are vital if it is found, disturbed, or generated during prior construction.

2.2.5.2 Affected Environment

The Initial Site Assessment includes a review of environmental regulatory agency databases to identify known or suspected environmental concerns or Recognized Environmental Conditions (RECs) that may be associated with the project area. A search of readily available environmental records was obtained from Environmental Data Resources, Inc. (EDR). The methodology and sources used for this analysis are presented in the Aerially Deposited Lead Survey Report (June 2019), the Initial Site Assessment (December 2020), and the Environmental Site Investigation Report (January 2023) prepared for the project.

Visual reconnaissance of the project area found that all properties adjacent to the project corridor were fairly well maintained and did not appear to be of environmental concern. There was no evidence of storage tanks, drums, hazardous substances or petroleum products, unidentified substance containers, odors, pools of liquids, or any other RECs. Below is a summary of the findings:

- The Project vicinity is comprised of a mix of single- and multi-family residential, commercial, and light-to-heavy industrial properties.
- Typical structures and/or features observed within the Project area include bridges, soundwalls, retaining walls, lighting, signs, and utility infrastructure. The potential exists for Polychlorinated biphenyls (PCBs) to be present in electrical equipment within the Project area.
- Storm drains, catch basins, and drainage channels were observed throughout the Project area within Caltrans ROW and landscaped areas along the freeways, and along slopes near interchanges. In addition, storm drains and catch basins were observed along streets and roads adjoining the Project as part of the curb and gutter system.
- I-15 crosses over Escondido Creek, north of West Valley Parkway. San Marcos Creeks runs generally parallel to the north of SR 78 from North Twin Oaks Valley Road west to where it crosses beneath SR 78 near the West San Marcos Boulevard westbound off-ramp.
- I-15 crosses over a NCTD rail-line as part of the I-15/SR 78 interchange. Other bridge structures are present crossing over and beneath the Site at various locations.
- No facilities within the Project area are considered as likely hazardous air pollutant emitters. However, vehicle emissions from freeway and ancillary road traffic is noted for the site. The potential exists for aerially deposited lead (ADL) from vehicle

emissions to be present and associated with long-term use of I-15, SR 78, and ancillary roads.

- Yellow thermal plastic paint striping was observed on the freeways (generally inside carpool lanes) and on inside lanes of on- and off-ramps at the interchange. Yellow striping was also observed on ancillary roads in the Project vicinity.
- An area of illegal dumping of household debris, organic material, scrap metal and other items were observed along eastbound SR 78 between West San Marcos Boulevard and Twin Oaks Valley Road near Discovery Road. Research indicates this land was historically developed for agricultural use and shallow soil contains elevated levels of lead and pesticides. However, these areas appear to be outside the Project limits and are not likely to impact the Project.
- An area of illegal dumping of construction debris, soil and trash was observed on a property that is proposed as a Temporary Construction Easement (TCE)/partial acquisition, located southwest of the Woodland Parkway and East Barham Drive.

The Phase I Site Assessment found that 29 parcels that are proposed to be affected by the Project as TCEs, permanent easements, partial or full acquisitions would require a Phase II Investigation. In addition to the hazardous waste conditions identified at the affected parcels, environmental concerns such as ADL, asbestos containing material (ACM), lead-based paint (LBP), groundwater contamination, electrical transformers, treated wood waste and impacted soils were identified and require testing.

ENVIRONMENTAL SITE INVESTIGATION

Recommendations from the Initial Site Assessment prepared for the Project were carried forward to an Environmental Site Investigation in which field personnel collected soil and groundwater samples for further analysis. Properties where sampling was performed as part of the investigation included only those locations for which a permit to enter (PTE) had been obtained by May 2022. At that time, PTEs had been obtained for 13 parcels which included five soil sampling locations and eight groundwater sample locations.

Soil samples were collected from 0.5 foot below ground surface (bgs), 1.5 foot bgs, and 3 feet bgs, or until refusal. Two soils borings met refusal at less than 2 feet bgs. One site met refusal at approximately 11 feet bgs due to bedrock; two locations were drilled to depths of 230-35 feet bgs and did not encounter any groundwater.

Aerially Deposited Lead

Environmental soil sampling was performed at the Project site for ADL, as well as other potential constituents of concern based on the historic site use as an interstate freeway. The sampling and data collection evaluated lead concentrations for worker safety consideration and to classify soil according to the State of California Department of Toxic Substances Control (DTSC) *Soil Management Agreement for Aerially Deposited*

Lead-Contaminated Soils (Agreement) with Caltrans (DTSC, 2016), to ensure compliance for the Project.

Additionally, one gas station with underground storage tanks (USTs) was considered for additional analytical sampling due to the potential release of contaminants from the USTs to the subsurface. Additional analyses were also included for soil samples collected based on the proximity of the Sprinter rail line near the project. Samples were collected at 30 boring locations. Those samples collected for ADL only were collected at depths of 0.5 foot bgs, 1.5 feet bgs, and 3 feet bgs, and were analyzed for total lead, soluble lead and pH. ADL sampling, analyses, and reporting were conducted consistent with Caltrans guidelines.

Soil samples collected near the gas station USTs were collected at depths of 0.5 foot bgs, 2 feet bgs, 4 feet bgs, and 6 feet bgs, and were analyzed for total petroleum hydrocarbons – carbon chain (TPH-cc), volatile organic compounds (VOCs) and the same ADL suite of analyses as described above.

Soil samples collected near the alignment of the SPRINTER rail were collected at depths of 0.5 foot bgs, and 2 feet bgs. These samples were analyzed for total metals, chlorinated herbicides, organochlorine pesticides, organophosphorous pesticides, and the same ADL suite of analyses as described above.

Based on statistical analysis and review of the analytical results of the ADL testing, as shown in Table 2-11, soil tested within the Caltrans ROW can be classified as Clean Soil. If disposal is required, then the soil can be disposed of at a Class II or III facility. Additional analysis of the soil may be required by the disposal facility as specified in Caltrans contract specification 14-11.08 (e.g., for constituents such a total petroleum hydrocarbons or total metals as many landfills require). Reclassification of the soil under the Agreement cannot be performed via additional sample collection and analyses and must be handled consistent with the contract documents. Import soil proposed for use as backfill of the excavated trenches must meet Caltrans SPP 6-1.03 criterial and also meet regulated soil requirements.

Table 2-11: Soil Survey Results for ADL

	Depth (feet bgs)	Classification	Landfill Facility
All Locations	All	Clean Soil	Class II or III
All Sample Locations Eastbound State Rute 78	All	Clean Soil	Class II or III
All Sample Locations Westbound State Route 78	All	Clean Soil	Class II or III
Sample Locations in Center Median of Interstate 15	All	Clean Soil	Class II or III
Sample Locations Southbound Interstate 15	All	Clean Soil	Class II or III

2.2.5.3 Environmental Consequences

Testing of soils and groundwater for metals (e.g., arsenic, lead, etc.), petroleum hydrocarbons, pesticides, polycyclic aromatic hydrocarbons, did not exceed screening criteria for Department of Toxic Substances Control Screening Levels for commercial/ industrial soils, or United States Environmental Protection Agency Regional Screening Levels for industrial soil, or hazardous waste criteria. These soils may be reused as needed for the Project as long as the requirements from San Diego Regional Water Quality Control Board (SDRWQCB) Order R9-2019-005 are met. Should this material be exported to a different site or project, then additional testing may need to be performed at the request of the receiver. Additionally, should these soils be disposed at a landfill, additional testing may be required by the receiving facility.

Groundwater concentrations are not indicative of a hazardous waste, but additional testing may be needed if dewatering is to occur for disposal is required or if SDRWQCB Order No. R9-2015-0013 and/or the National Pollutant Discharge Elimination Systems (NPDES) No. CAG919003 would be involved.

Further, based on the results of the sample of both soil and groundwater, there does not appear to be significant contamination on the properties that are slated for acquisition or partial acquisition.

Other potential hazardous substances or hazardous waste issues requiring proper handling and disposal include treated wood waste on roadside signs and guardrails and pavement paint, striping, and markings.

2.2.5.4 Avoidance, Minimization, and/or Mitigation Measures

Based on the results of testing conducted, hazardous waste is not expected to be encountered in the project area. However, the following is used to address the potential adverse hazardous waste impacts that may be uncovered during construction of the project.

HW-1: If any discolored, odorous or compromised soils are encountered during excavation, they shall be tested and removed and disposed of per regulatory requirements.

HW-2: Groundwater from dewatering of excavations would be stored in Baker tanks during construction activities and characterized to determine the appropriate treatment requirements for discharge and disposal. The extracted groundwater shall be collected and managed for disposal/treatment in compliance with local and state regulations.

HW-3: All loose and peeling lead-based paints and asbestos containing material shall be removed by a certified contractor(s) in accordance with local, state, and federal requirements. All other hazardous materials would be removed from structures in accordance with Cal/OSHA regulations.

HW-4: Asphalt concrete and Portland cement concrete grindings shall be reused in accordance with the San Diego Regional Water Quality Control Board (SDRWQCB) guidance to protect water quality or transported off-site for recycling or disposal.

HW-5: Hazardous Structure Material Surveys would be conducted for asbestos-containing material, lead-based paint, treated-wood waste, and polychlorinated biphenyls.

HW-6: A Lead Compliance Plan and Asbestos Compliance Plan would be prepared by the contractor prior to the start of the project construction.

2.2.6 AIR QUALITY

2.2.6.1 Regulatory Setting

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 (CARB), 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 (NO₂), ozone (O₃), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM₁₀) and particles of 2.5 micrometers and smaller (PM_{2.5}), Lead (Pb), and sulfur dioxide (SO₂). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H₂S), 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 regulations address toxic air contaminants (or hazardous air pollutants [HAPs]); with some criteria pollutants including specific HAPs within their broader definition. For example, PM₁₀ and PM_{2.5} can contain toxic substances like benzene, formaldehyde, and metals, which are regulated as HAPs.

Federal air quality standards and regulations provide the basic framework 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 the 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 attain the NAAQS for carbon monoxide (CO), nitrogen oxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and in some areas (although not in California), sulfur dioxide (SO₂). California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO₂ 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 FTIP; the project has a design concept and scope⁷ that has not changed significantly from those in the RTP and FTIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in the PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for project located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as HAPs. The U.S. EPA has assessed this

⁷ “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.

expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are part of U.S. EPA's Integrated Risk Information System (IRIS)⁸. In addition, the U.S. EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-hazard contributors from the 2011 National Air Toxics Assessment (NATA)⁹. These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel PM, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While the FHWA considers these the priority mobile source air toxics (MSAT), the list is subject to change and may be adjusted in consideration of future U.S. EPA rules.

FHWA released updated guidance in January 2023 (FHWA 2023) for determining when and how to address 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; and
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no impacts generally include those that a) qualify as a categorical exclusion under 23 CFR 771.117, b) qualify as exempt under the FCAA conformity rule under 40 CFR 93.126, and c) are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix.

Projects that have low potential MSAT effects are those that serve to improve highway, transit, or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. The large majority of projects fall into this category. Projects with high potential MSAT effects include those that create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of Diesel Particulate Matter in a single location or create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000, or greater, by the design year; and are proposed to be located in proximity to populated areas, or in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals). Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California.

⁸ <https://www.epa.gov/iris>

⁹ <https://www.epa.gov/national-air-toxics-assessment>

Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986. All types of asbestos are hazardous and may cause lung disease and cancer.

Serpentine rock may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentinite, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentine and/or ultramafic rock. Serpentine and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. 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. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

2.2.6.2 Affected Environment

The information in this section, including the topics of air quality and GHG emissions and climate change, is based on the Air Quality Report (AQR) prepared for the proposed project in January 2024.

The topography of a region can substantially impact air flow and resulting pollutant concentrations. California is divided into 15 air basins with similar topography and meteorology to better manage air quality throughout the state. Each air basin has a local air district that is responsible for identifying and implementing air quality strategies to comply with ambient air quality standards.

The proposed project site is located in proximity to Escondido and San Marcos in San Diego County, within the San Diego Air Basin (SDAB). The boundaries of the SDAB are contiguous with the political boundaries of the County. Air quality regulation in SDAB is administered by the San Diego Air Pollution Control District (SDAPCD). Current estimated population for San Diego County is 3,300,000 and the county's economy is largely driven by health care and social assistance; professional, scientific, and technical services; retail trade; management of companies and enterprises; and utilities.¹⁰

Climate, Meteorology, and Topography

Meteorology (weather) and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and

¹⁰ Source: <https://datausa.io/profile/geo/san-diego-county-ca#economy>

the type of winds at the surface and above the surface. Winds can transport ozone and ozone precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as a barrier that prevents ozone from dispersing.

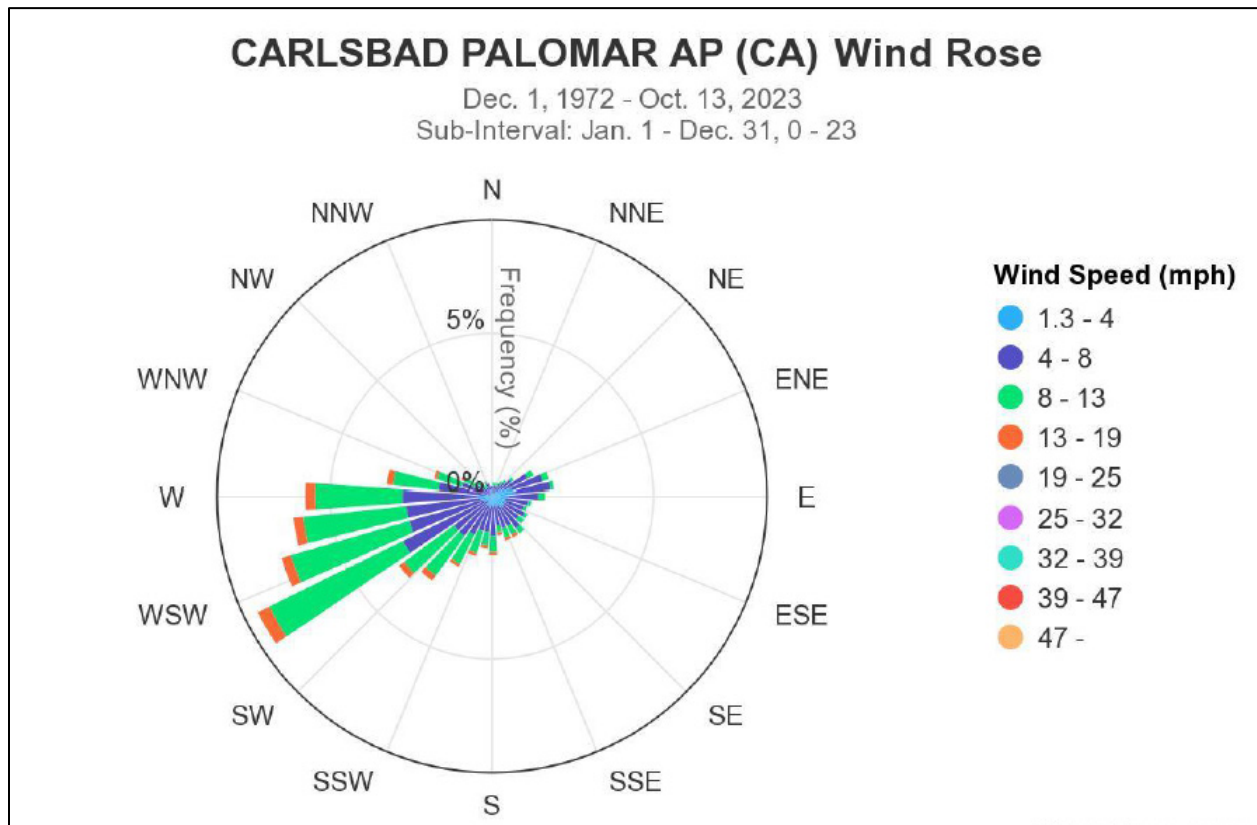
As described previously, the proposed project is located within the SDAB. The SDAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east. The topography in the SDAB region varies greatly, from beaches on the west, to mountains and then desert to the east.

The climate of the SDAB is characterized by warm, dry summers and mild winters. One of the main determinants of its climatology is a semi-permanent high-pressure area in the eastern Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. During fall, the region often experiences dry, warm easterly winds, locally referred to as Santa Ana winds, which raise temperatures and lower humidity, often to less than 20 percent.

Figure 2-19 shows a wind rose illustrating the predominant wind patterns near the project. The climate of the project area is characterized by mild winters from an average minimum of 37.1 degrees Fahrenheit (°F) to an average maximum of 64.9°F, and July temperatures range from an average minimum of 58°F to an average maximum of 88.2°F (WRCC 2023). Annual average rainfall is 16.22 inches, mainly falling during the winter months.

A common atmospheric condition known as a temperature inversion affects air quality in the SDAB. During an inversion, air temperatures get warmer rather than cooler with increasing height. Inversion layers are important for local air quality because they inhibit the dispersion of pollutants and result in a temporary degradation of air quality. The pollution potential of an area is largely dependent on a combination of winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, the atmospheric pollution potential is greatly reduced.

Figure 2-19: Predominant Wind Patterns Near the Project



Existing Air Quality

This section summarizes existing air quality conditions near the proposed project area. It includes attainment statuses for criteria pollutants, describes local ambient concentrations of criteria pollutants for the past 6 years, and discusses MSAT and GHG emissions.

The closest operating air quality monitoring site to the project area that is used by SDAPCD for compliance purposes is the Rancho Carmel Dr. site, located approximately 15 miles southeast from the I-15/SR 78 interchange at 11403 Rancho Carmel Drive. The Rancho Carmel Dr. site monitors ambient concentrations of CO, NO₂, and PM_{2.5} starting in 2019. Criteria pollutants concentrations for all years are reported using air quality data published by SDAPCD and/or based on CARB's air quality summaries. Where information was unavailable for the Rancho Carmel Dr. site for O₃ and PM_{2.5}, the second nearest station of Camp Pendleton, located approximately 20 miles northwest, was used as reference. For PM₁₀, the closest SDAPCD station is located 40 miles southeast at Lexington Elementary School. Table 2-13 presents 6 years of the most recent information available, summarizing the exceedances of standards and the highest recorded pollutant. These concentrations represent the existing, or baseline conditions, for the project area, based on the most recent information that is available.

Criteria Pollutants and Attainment Status

Table 2-12 lists the state and federal attainment status for all regulated pollutants. Table 2-13 lists air quality trends in data in the project area/region for the past 5 years. Table 2-14 lists the status of SIPs relevant to the project study area.

Table 2-12: State and Federal Attainment Statuses for Regulated Pollutants

Pollutant	State Attainment Status	Federal Attainment Status
Ozone (O ₃)	Nonattainment (8-hour) Nonattainment (1-hour)	Nonattainment (8-hour) Attainment (1-hour) ¹
Respirable Particulate Matter (PM ₁₀)	Nonattainment ³	Unclassifiable ²
Fine Particulate Matter (PM _{2.5})	Nonattainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Visibility-Reducing Particles	Unclassified	N/A
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Vinyl Chloride	No Information Available	N/A

Notes:

¹ The federal 1-hour standard of 12 pphm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in SIPs.

² At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

³ CARB has not reclassified the region to attainment yet due to (1) incomplete data, and (2) the use of non-California Approved Samplers (CAS). While data collected does meet the requirements for designation of attainment with federal PM_{2.5} standards, the data completeness requirements for state PM_{2.5} standards substantially exceed federal requirements and mandates, and have historically not been feasible for most air districts to adhere to given local resources. SDAPCD has begun replacing most regional filter-based PM_{2.5} monitors as they reach the end of their useful life with continuous PM_{2.5} air monitors to ensure collected data meets stringent completeness requirements in the future. APCD anticipates these new monitors would be approved as "CAS" monitors once CARB review the list of approved monitors, which has not been updated since 2013.

Source: SDAPCD 2023b

**Table 2-13: Air Quality Concentrations for the
Past 6 Years Measured at Camp Pendleton Station**

Pollutant		Standard	2018	2019	2020	2021	2022	2023
Ozone								
Max 1-hr concentration			0.084	0.075	0.094	0.074	0.076	0.090
No. days exceeded: State	0.09 ppm		0	0	0	0	0	0
Max 8-hr concentration			0.068	0.064	0.074	0.059	0.067	0.077
No. days exceeded: State	0.070 ppm		0	0	3	0	0	1
Federal	0.070 ppm		0	0	3	0	0	1
Carbon Monoxide								
Max 1-hr concentration			1.9	4.1	3.3	3.0	2.2	2.7
No. days exceeded: State	20 ppm		0	0	0	0	0	0
Federal	35 ppm		0	0	0	0	0	0
Max 8-hr concentration			1.4	2.5	1.7	1.8	1.2	2.1
No. days exceeded: State	9.0 ppm		0	0	0	0	0	0
Federal	9 ppm		0	0	0	0	0	0
PM₁₀								
Max 24-hr concentration			43	38	55	40	44	42
No. days exceeded: State	50 µg/m ³		0	0	*	0	0	0
Federal	150 µg/m ³		0	0	0	0	0	0
Max annual concentration			9.8	8.2	9.2	8.5	7.7	7.9
No. days exceeded: State	20 µg/m ³		*	0	*	*	*	*
PM_{2.5}								
Max 24-hr concentration			30.5	18.9	40.2	23.5	14.9	26.5
No. days exceeded: Federal	35 µg/m ³		0	0	1	0	0	0
Max annual concentration			9.8	8.2	9.2	8.5	7.7	7.9
No. days exceeded: State	12 µg/m ³		0	0	0	0	0	0
Federal	12.0 µg/m ³		0	0	0	0	0	0
Nitrogen Dioxide								
Max 1-hr concentration			0.055	0.054	0.054	0.054	0.056	0.063
No. days exceeded: State	0.18 ppm		0	0	0	0	0	0
Federal	100 ppb		0	0	0	0	0	0
Max annual concentration			0.014	0.014	0.013	0.013	0.015	0.005
No. days exceeded: State	0.030 ppm		0	0	0	0	0	0
Federal	53 ppb		0	0	0	0	0	0

Table 2-14: Status of SIPs Relevant to the Project Area

Criteria Pollutant	Status
O ₃	San Diego County Air Quality Management Plan for attaining the Federal 8-hour 75 parts per billion (ppb) and 70 ppb Ozone standards (2020)
PM ₁₀ and PM _{2.5}	No SIP required; region is in attainment under the federal PM ₁₀ and PM _{2.5} standards.
CO	No SIP required; region is in attainment under the federal CO standard. 2004 Revision to the California SIP for Carbon Monoxide (2004)

Mobile Source Air Toxics

The proposed project is a MSAT source, and the project site is also surrounded by several other sources that emit priority MSATs. Vehicles that travel along I-15 and SR 78 are sources of MSATs affecting sensitive receptors in the project area. In addition, there are also several permitted stationary sources surrounding the project site. The closest stationary sources near the project are small permitted industrial sources that include gas stations and back-up diesel generators along the SR 78 corridor. In addition, a concrete supplier, Superior Ready Mix LP, is located at 500 N Tulip St. in Escondido, approximately 1,000 feet east of the project site. A 500-megawatt natural gas-fired, combined-cycle facility, Escondido Energy Center, LLC, is located at 1968 Don Lee Place in Escondido, approximately 900 feet south of the project site. The Palomar Medical Center West, located at 2195 Citracado Pkwy in Escondido, is also a permitted stationary source of MSAT emissions, and is located over 2,000 feet south of the project site (SDAPCD 2023c).

Ambient MSAT data are available from CARB's website¹¹, with the closest CARB monitoring stations reporting toxics in El Cajon, California, including the El Cajon-Lexington Elementary School station located at 533 First Street, and the El Cajon-Redwood Avenue station at 1155 Redwood Avenue.

Asbestos

As detailed above, asbestos is a known human carcinogen that can be found in man-made items (e.g., structural asbestos found in ceilings) or found naturally (e.g., naturally occurring asbestos [NOA]). Structural asbestos is regulated by federal and state air district regulations, while NOA is regulated by CARB and worker-safety programs.

NOA in California may occur in serpentinite and ultramafic rocks. NOA is commonly found in the foothill region of the Sierra Nevada, the Coast Ranges, and northwestern California. In an NOA area, construction could disturb the NOA, and it may become airborne. Therefore, a review of the proposed project footprint and of asbestos areas in California was completed to determine if NOA would be present in the area. Based on

¹¹ <https://www.arb.ca.gov/adam/toxics/toxics.html>

geologic mapping there are no areas of bedrock likely to contain NOA within the project area (USGS 2011) and further analysis is not needed.

Lead

Aerially Deposited Lead: Prior to the mid-1980s, lead was commonly added to gasoline. As a result, lead was emitted as a component of motor vehicle exhaust. Therefore, lead emissions are not included in the proposed project's construction emissions. However, soil sampling along many roadways has found that concentrations of lead exceed applicable thresholds for classification as a hazardous material due to its historic addition to gasoline. This phenomenon known as "aerially deposited lead" (ADL) is widespread. Because I-15 and SR 78 were built prior to the phaseout of lead as a gasoline additive, elevated concentrations of lead are likely to be present in the soil along the highway.

Greenhouse Gas and Climate Change

Carbon dioxide (CO₂), as part of the carbon cycle, is an important compound for plant and animal life, but also accounted for 84 percent of California's total GHG emissions in 2015. Transportation, primarily on-road travel, is the single largest source of CO₂ emissions in the state.

The proposed project is located in the Cities of Escondido and San Marcos in San Diego County and is included in the SANDAG 2021 Regional Plan. The SANDAG 2021 Regional Plan included a GHG inventory for 2016, which estimated that approximately 26 MMTCO₂e were emitted in the San Diego region from the following emissions categories: passenger cars and light-duty vehicles, electricity, natural gas, industrial, heavy-duty trucks and vehicles, off-road transportation, solid waste, water, aviation, rail, wastewater, agriculture, marine vessels, and soil management.

Sensitive Receptors

The County of San Diego describes sensitive receptors to include schools, residences, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality (County of San Diego 2007). As summarized in CARB's Air Quality and Land Use Handbook: A Community Health Perspective, the zone of greatest concern near roadways is within 500 feet (or 150 meters) (CARB 2005). As such, sensitive receptors within 500 feet (or 150 meters) have been identified and are documented in Table 2-15. Figure 2-20 shows the locations of sensitive receptors relative to the project site.

As described previously, the project site traverses San Diego County including the Cities of Escondido and San Marcos. As a result, there are numerous sensitive receptors near the project area, including residence areas, schools, and daycares. Figure 2-20 shows the project area and the surrounding sensitive receptors within 500 feet. Table 2-15 lists the receptors and their descriptions. Due to the length of the

project site (i.e., approximately 3 miles), and number of nearby residential receptors (i.e., hundreds), details on each residential receptor are not provided.

Table 2-15: Sensitive Receptors Located Within 500 ft of the Project Site

Sensitive Receptor Group	Number of Receptors Identified	Receptor Names	Distance Between Receptor and Project
Daycare Centers	2	Noah's Park Preschool Learning Jungle San Marcos	50 feet 460 feet
Schools	2	Baypoint Preparatory Academy California State University San Marcos	60 feet 250 feet
Residence Areas	Hundreds of individual residences	Single family and multi-family residences immediately adjacent to the project limits	50 – 500+ feet

Source: Sensitive receptor locations were identified using Google Maps and GIS by AECOM in 2023.

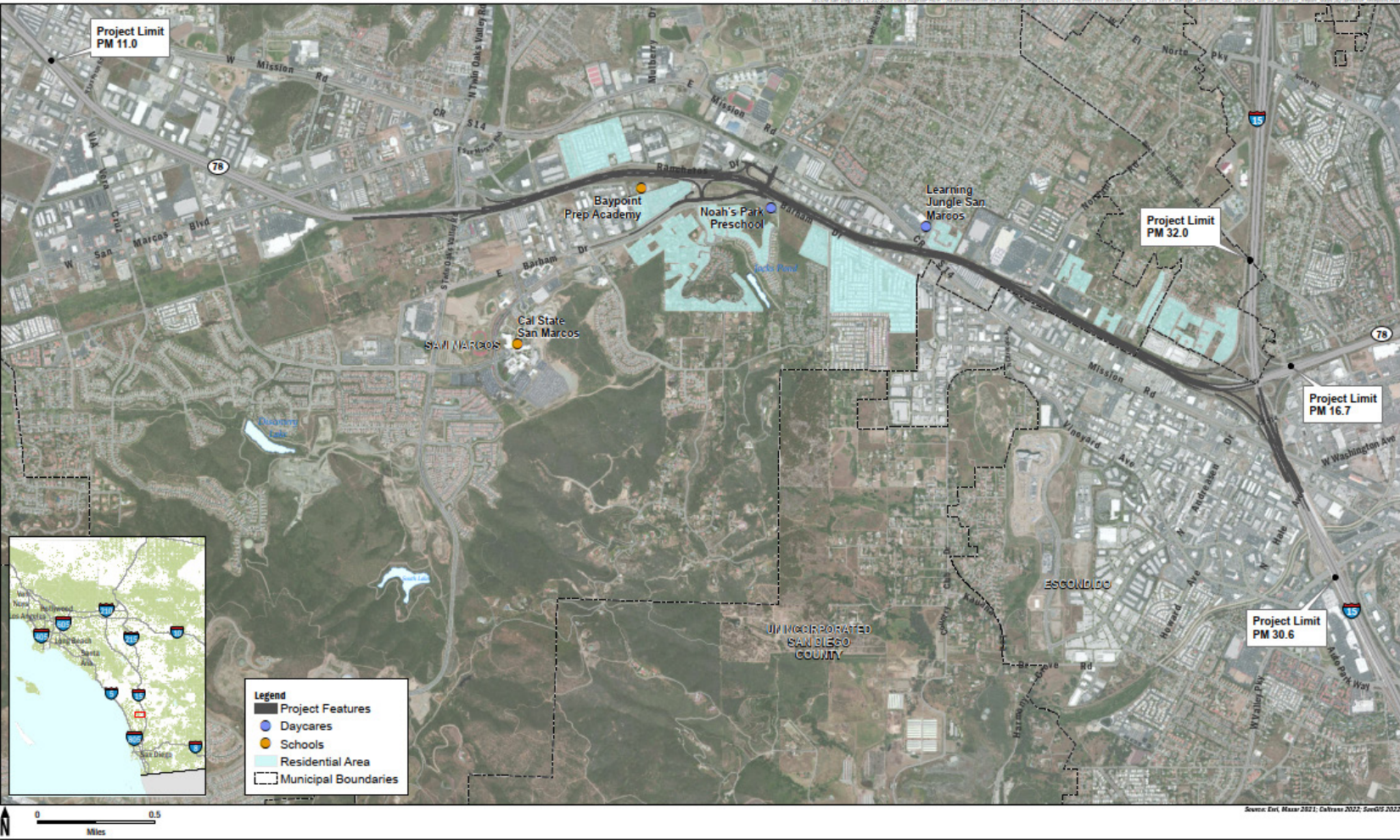
Regional Conformity

Regional conformity requires planned and programmed transportation projects be included in a regional emissions analysis. However, certain types of projects are exempt from conformity requirements. These project types are found by the U.S. EPA to be neutral from an air quality or emissions standpoint and are listed in the Conformity Regulations at 40 CFR 93.126, 40 CFR 92.127, and 40 CFR 92.128. If a project is exempt, it may need little or no conformity analysis and does not need to be individually listed and considered in the regional emissions analysis (i.e., regional conformity modeling).

The Build Alternative would create a managed lane in each direction from SR 78 in San Diego County. This type of project is not exempt from regional conformity requirements per 40 CFR 93.126 as it would alter the capacity of both westbound and eastbound SR 78 of the extend I-15 Express Lanes onto SR 78 in the project area.

The proposed project is listed in SANDAG's 2023 financially constrained 2023 RTIP, Amendment No. 06 and 2025 RTIP (MPO ID: CAL277) and 2021 Regional Plan (Project ID: CC073). SANDAG found that regionally significant projects in the San Diego area would conform to the purpose of the SIP and not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS as provided in Section 176(c) of the FCAA. The fiscally constrained 2023 RTIP and 2021 Regional Plan were determined to conform by FHWA and FTA on January 28, 2022. The SANDAG Board adopted the 2025 RTIP on September 27, 2024. The FHWA and FTA approved the 2025 RTIP and its air quality conformity determination on December 16, 2024.

Figure 2-20. Sensitive Receptors Located Near the Proposed Project



The design concept and scope of the proposed project is consistent with the project description of MPO ID CAL277 and Project ID CC037 in the 2021 RTP, 2023 RTIP, and 2025 RTIP and the “open to traffic” assumptions of SANDAG’s regional emissions analysis. Therefore, the project would not interfere with the timely implementation of any Transportation Control Measures identified in the SIP.

The conformity status of the 2021 Regional Plan and the 2023 and 2025 RTIP are summarized in Table 2-16. Photocopies of relevant pages from the RTP and RTIP are included in Appendix A of the AQR.

Table 2-16: Status of Plans Related to Regional Conformity

MPO	Plan/TIP	Date of adoption by MPO	Date of Approval by FHWA	Last Amendment	Date of Approval by FHWA of Last Amendment
SANDAG	Regional Plan	December 2021	January 2022	Amendment #1	N/A
SANDAG	2023 Regional Transportation Improvement Program ¹	September 2022	December 2022	Amendment #17	August 2024
	2025 Regional Transportation Improvement Program ¹	September 2024	December 2024	Amendment #2	Amendment #1 pending federal approval

¹ The 2023 RTIP covers five fiscal years (FY 2023 through FY 2027); the 2025 RTIP covers five fiscal years (FY 2025 through FY 2029); both programs incrementally implement the SANDAG 2021 Regional Plan.

Project-Level Conformity

The proposed project is located in the SDAB in an unclassified and attainment area for the PM₁₀ and PM_{2.5} standards, respectively, and in an attainment area for CO; thus, a project-level hot-spot analysis for PM₁₀, PM_{2.5}, and CO are not required under 40 CFR 93.109.

2.2.6.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would not change air quality in the project area.

BUILD ALTERNATIVE

Short Term Effects (Construction Emissions)

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 five years or less at any individual site. As described in Section 1.5, construction activities are not anticipated to last more than five years at any individual site. As such, a hot-spot analysis is not required for the proposed project's construction-related emissions.

Construction-related emissions typically fall into two main categories:

- *Fugitive Dust:* Emissions associated with ground disturbance, such as excavation activities, material movement activities such as truck loading, and travel on unpaved and paved roads. 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. PM₁₀ emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ 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. All air districts and the California Health and Safety Code (Sections 41700-41701) prohibit “visible emissions” exceeding three minutes in one hour – this applies not only to dust but also to engine exhaust. In general, this is interpreted as visible emissions crossing the ROW line. As described in Section 2.2.5, the SDAPCD has also adopted rules prohibiting visible emissions (SDAPCD Rule 50) and establishing limits to the discharge of particulate matter and dust (SDAPCD Rules 51, 52, 54, and 55).
- *Construction equipment emissions:* On-road and off-road construction equipment and vehicles would also generate exhaust-related emissions of criteria pollutants, including, NO_x, ROG, CO, PM₁₀, and PM_{2.5}. A subset of the particulate matter emissions would include diesel PM, which is a California-identified toxic air contaminant, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

Construction emissions were estimated using the Caltrans Construction Emissions Tool 2021 (CAL-CET2021), version 1.0.2, released on August 27, 2021. CAL-CET2021 uses emission factors from CARB's emissions databases, such as OFFROAD and EMFAC2021. As detailed construction plans and equipment usage details were not available at the time of this analysis, this analysis utilized the model's default information for construction details such as construction equipment and light-duty truck usage based on the anticipated construction duration and the estimated cost as provided in the 2023 RTIP. Default information was also supplemented by the specific haul truck trip estimates anticipated to be required for material import/export, including concrete, asphalt, borrow, wood waste, and aggregate, during grading and earthwork, paving, and structural concrete phases. Construction-related emissions for proposed project are presented in Table 2-17. Appendix B of the AQR lists the construction inputs provided and entered into CAL-CET2021.

Table 2-17: Proposed Project Construction- Related Emissions

Phase	PM ₁₀	PM _{2.5}	CO	NO _x	ROG	CO _{2e}
	pounds per day					metric tons
Land Clearing/ Grubbing	6.60	2.68	30.76	32.68	5.31	384
Roadway Excavation	7.96	6.63	86.61	87.16	12.90	2,826
Structural Excavation	7.36	1.89	12.35	20.45	3.91	192
Base/Subbase/ Imported Borrow	12.13	10.03	140.05	128.56	18.82	2,629
Structural Concrete	1.71	1.67	18.60	26.92	5.69	729
Paving (lbs/day)	5.87	5.78	34.91	79.91	11.00	1,100
Drainage/ Environment/ Landscaping	2.88	2.81	18.26	37.61	5.99	965
Traffic Signalization/ Signage/Striping/Pa inting	4.47	4.30	48.57	87.46	12.83	2,577
Maximum Daily Emissions	12.13	10.03	140.05	128.56	18.82	N/A
Project Total (tons for criteria pollutants; metric tons for CO _{2e})	3.95	3.24	36.14	45.61	6.97	11,403

Lead

As discussed previously, because I-15 and SR 78 were built prior to the phaseout of lead as a gasoline additive, elevated concentrations of lead are likely to be present in the soil along the highway.

Prior to proposed project construction, a soil investigation would be conducted to determine whether ADL has affected soils that would be excavated as part of the proposed project. This applies to locations where such testing has not already been completed. The investigation for ADL would be performed following Caltrans' Lead Testing Guidance Procedure. The analytical results would be compared against applicable hazardous waste criteria. Based on analytical results, the investigation would provide recommendations regarding management and disposal of affected soils in the project area including the reuse potential of ADL-affected soil during project construction. The provisions of a variance granted to Caltrans by the California Department of Toxic Substances Control on September 22, 2000 (or any subsequent variance in effect when the project is constructed) regarding ADL would be followed.

Lead-Based Paint: Due to the age of the structures located within the Project limits, there is a potential for the presence of lead-based paint. Testing for the presence of lead-based paint would occur as necessary and/or applicable. If this substance is found

to be present, applicable regulations pertaining to its removal and disposal would be followed.

Long-Term Effects (Operational Emissions)

Operational emissions take into account long-term changes in emissions due to project implementation (excluding the construction phase). The operational emissions analysis compares emissions for the existing/baseline conditions (2020) and forecasted emissions under the No Build and Build Alternative for the horizon year (2050).

As described previously, operational emissions were modeled using Caltrans' CT-EMFAC2017 emissions model. CT-EMFAC2017, released in January 2019, is based on CARB's EMFAC2017 emissions model. The CARB Emission FACTors 2017 (EMFAC2017) model became available for use in December 2017 and was approved by the U.S. EPA in August 2019, under the federal register docket number FRL-9998-27-R9.

CT-EMFAC2017 produced daily emissions for each condition (i.e., baseline, No Build Alternative and Build Alternative), based on VMT data, vehicle speeds, and fleet mix. Table 2-18 provides the operational emissions results for the existing conditions (2020), No Build Alternative (2050), and Build Alternative (2050).

Table 2-18: Summary of Comparative Emissions Analysis

Scenario/ Analysis Year	CO (tons/day)	PM₁₀ (tons/day)	PM_{2.5} (tons/day)	ROG (tons/day)	Nox (tons/day)
Baseline (Existing Conditions) 2020	3.84149	0.73475	0.16552	0.43871	0.84887
No Build 2050	2.03882	0.78038	0.16664	0.17339	0.30041
Build Alternative 2050	1.92902	0.74367	0.15856	0.16379	0.28995

Source: Caltrans 2023

As shown in Table 2-18, when comparing future emissions under the No Build and Build Alternative to the Baseline, or existing conditions, emissions of ROG, CO, and NO_x would decrease in the future as older vehicles are replaced by newer vehicles with more stringent fuel economy standards or zero emission vehicles. PM₁₀ and PM_{2.5} emissions trend more directly with VMT, as a result of brake wear, tire wear, and road dust emissions. Thus, they are forecast to increase in the future as a function of VMT.

As shown in Table 2-18, when compared to the No Build Alternative, the Build Alternative would result in a net decrease of all pollutants; specifically, it would result in a net decrease of approximately 3.5 percent in NO_x emissions, 5.4 percent in CO emissions, 5.5 percent in ROG emissions, 4.7 percent in PM₁₀ emissions, and 4.9 percent in PM_{2.5} emissions.

CO Analysis

CO emissions were estimated for the baseline year (2020) and the horizon year (2050) given the No Build and Build Alternative. The changes in CO emissions between the various modeling scenarios are shown in Table 2-18.

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 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 9.0 ppm for the state standard.

The transportation conformity requirements for CO ceased to apply on June 1, 2018. The proposed project is not expected to increase the percentage of vehicles operating in cold start mode or worsen traffic flow. The Build Alternative would also reduce the number of vehicles hours of daily delay, thus, improving traffic flow along the corridor. Additionally, the proposed project is in an area designated "Attainment" for CO under both the NAAQS and CAAQS. Therefore, based on the CO Protocol Carbon Monoxide Screening Analysis, no further analysis is necessary to demonstrate the proposed project would not cause or contribute to a violation of an ambient air quality standards for CO. Measured CO concentrations near the Project footprint are well below the NAAQS and CAAQS.

PM Analysis

Emissions Analysis

PM₁₀ and PM_{2.5} emissions were estimated for baseline (2020) and the horizon year (2050) given the No Build Alternative and the Build Alternative. When compared to the No Build Alternative, the Build Alternative does not result in higher PM₁₀ and PM_{2.5} emissions.

Hot-Spot Analysis

The proposed project is located in the SDAB which is not classified as a nonattainment or maintenance area for PM, and therefore it is not required to include an emissions or hot-spot analysis.

NO₂ Analysis

The U.S. EPA modified the NO₂ NAAQS to include a 1-hr standard of 100 ppb in 2010. Currently there is no federal project-level nitrogen dioxide (NO₂) analysis requirement. However, NO₂ is among the near-road pollutants of concern. The proposed project is in

an area designated as attainment by U.S. EPA for NO₂. Current and historical monitoring data for the region do not indicate any violations of the NAAQS or exceedances of the CAAQS for NO₂.

NO₂ concentrations associated with implementation of the proposed project would likely be dominated by overall NO_x emissions. Table 2-18 provides NO_x emission estimates for baseline (2020) and the horizon year (2050) for the No Build and Build Alternative. Due to the fast rate of transformation of NO to NO₂ under ambient conditions or when NO_x emissions are exposed to any type of an oxidant, most of the directly emitted NO_x would convert to NO₂ within a few seconds. Therefore, NO_x emissions overall can serve as a useful analysis surrogate for NO₂ (Caltrans 2012). When compared to baseline conditions, Table 2-18 shows NO_x emissions decreasing in the future under both the No Build and Build Alternative, due to fleet turn over. When compared to the No Build Alternative, the Build Alternative would result in slightly lower daily NO_x emissions due to traffic flow improvements with implementation of the proposed project.

Mobility Source Air Toxics Analysis

Table 2-19 shows the MSAT emissions estimated for the baseline, No Build Alternative, and Build Alternative for all analysis years. CT-EMFAC2017 was used to estimate the emissions of nine MSAT pollutants: acetaldehyde, benzene, ethylbenzene, 1,3-butadiene, formaldehyde, acrolein, naphthalene, diesel PM, and polycyclic organic matter. VMT were estimated for the baseline year (2020) and horizon year (2050) and applied to the CT-EMFAC2017 emission factors.

As shown in Table 2-19, emissions would be substantially lower than present levels in the horizon year (2050), due to U.S. EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures.

Table 2-19: Summary of Comparative MSAT Emissions Analysis (tons/day)

Scenario/ Analysis Year	1,3- buta- diene	Acetal- dehyde	Acrolein	Benzene	Diesel PM	Ethylben- zene	Formal- dehyde	Naph- thalene	Polycyclic Organic Matter
Baseline (Existing Conditions) 2020	0.00118	0.00295	0.00026	0.00811	0.00967	0.00656	0.00773	0.00054	0.00023
No Build 2050	0.00053	0.00094	0.00012	0.00335	0.00224	0.00265	0.00267	0.00024	0.00008
Build Alternative 2050	0.00051	0.00089	0.00011	0.00319	0.00213	0.00250	0.00254	0.00023	0.00007

Source: Caltrans 2023

The proposed project would not change the traffic mix nor relocate major roadways closer to sensitive receptors. For the proposed project, the amount of MSAT emitted is

expected to be proportional to VMT, assuming other variables such as fleet mix remain the same. The Build Alternative would result in a decrease of MSATs between 4 and 13 percent compared to the No Build Alternative.

Additionally, it should be noted that current scientific techniques, tools, and data are not sufficient to accurately estimate human health impacts from transportation projects in a way that would be useful to decision-makers.

Greenhouse Gas Emissions Analysis

GHG emissions associated with the proposed Build Alternative would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips (as shown in Table 2-17). However, long-term operational emissions associated with vehicular traffic in the region would continue.

As shown in Table 2-20, compared to the Existing/Baseline condition (2020), GHG emissions for the No Build Alternative and Build Alternative are anticipated to result in substantially lower GHG emissions. This can be attributed to improvements in vehicle technology and reformulation of fuels, and fleet turnover over time. The Build Alternative would result in a decrease in annual GHG emissions compared to the No Build Alternative due to the decrease in annual VMT.

Table 2-20: Modeled Annual CO₂e Emissions and VMT, by Alternative

Alternative	CO ₂ e Emissions (Metric Tons/Year) ¹	Annual VMT ¹
Existing/Baseline 2020	421,125	592,945,966
Horizon Year 2050		
No Build	294,805	641,708,488
Build Alternative	280,632	618,607,657

CO₂e = carbon dioxide equivalent

Source: Caltrans 2023

¹ Annual CO₂e emissions and annual VMT values derived from daily CO₂e emissions and daily VMT values, respectively, multiplied by 347, per CARB methodology (CARB 2008).

2.2.6.4 Avoidance, Minimization, and/or Mitigation Measures

Since the proposed project would provide critical improvements in the regional multi-modal transportation system by accommodating the use of carpools, cyclists, pedestrians, and high-frequency rapid transit (e.g., commuter express, bus rapid transit) within the project corridor and facilitating connections between planned (e.g., SR 78 Managed Lanes) and existing (e.g., I-15 Managed Lanes) multi-modal facilities, no additional operational minimization measures are recommended for long-term operations.

However, AMMs AQ-1 through AQ-3 are feasible short-term (construction) measures that would be implemented to eliminate or substantially reduce proposed project impacts.

Short-Term (Construction)

AMMs AQ-1 through AQ-3 are derived from SANDAG's *San Diego Forward*, 2021 Regional Plan Final Environmental Impact Report (SANDAG 2021).

These may also be consistent with the requirements outlined by Caltrans' Standard Specifications Sections 13 – Water Pollution Control and Section 14-9 – Air Quality.

AQ-1: Implement Construction Best Management Practices for Fugitive Dust

- *Use fugitive dust control measures to reduce generation from exposed surfaces during construction, as specified in SDAPCD Rule 55 (SDAPCD 2009). SDAPCD Rule 55 includes various requirements, including preventing visible dust beyond the property line for more than 3 minutes in any 60-minute period, applying dust suppressants, removing all track-out/carry-out dust at the conclusion of each work day. Compliance with these regulatory requirements is a performance standard for mitigation of construction activity particulate emissions. Reductions in fugitive dust emissions range from 40 to 80 percent for minimizing track-out to 90 percent for use of tarps or cargo covering when transporting material (SCAQMD 2007, WRAP 2006).*
- *Use additional fugitive dust control measures such as watering or application of dust suppressants to reduce the generation of fugitive dust at active construction sites. Reductions in fugitive dust emissions range from 10 to 74 percent for watering of unpaved surfaces to 84 percent for use of dust suppressants (WRAP 2006).*
- *Implement controls on haul trucks to reduce emissions from haul trucks transporting soil, sand, or other loose material off site. Reductions in fugitive dust emissions are estimated at 91 percent for use of tarps or cargo covering when transporting material (SCAQMD 2007).*
- *Remove visible mud or dirt track-out onto adjacent public roads. Reductions in fugitive dust emissions range from 40 to 80 percent for minimizing track-out (WRAP 2006).*
- *Limit vehicle speeds on unpaved surfaces during construction to 15 mph. Reductions in fugitive dust emissions from unpaved surfaces are estimated at 57 percent (WRAP 2006).*
- *Suspend excavation, grading, and/or demolition activities when average wind speeds exceed 20 mph. Reductions in fugitive dust emissions are estimated at 98 percent (WRAP 2006).*
- *Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas. Reductions in fugitive dust emissions from wind erosion are estimated at 90 percent (WRAP 2006).*

- *Wash all trucks and equipment, including their tires, prior to leaving the construction site. No quantitative estimate of the effectiveness of this measure is available.*
- *Implement other site-specific fugitive dust control measures as warranted for individual construction projects for the transportation network and/or land use projects.*

AQ-2: Reduce Diesel Emissions During Construction from Off-Road Equipment

- *Ensure off-road equipment greater than 25 horsepower (hp) that would be operating for more than 20 hours during construction meets the following requirements:*
 - *Ensure engines are zero emissions or equipped with an CARB Level 3 Verified Diesel Emissions Control Strategy, if available for the equipment being used, unless the equipment meets EPA Tier 4 emission standards.*
- Monitor idling time of diesel-powered construction equipment and limit to no more than 2 minutes.
- Maintain and properly tune construction equipment in accordance with the manufacturers' specifications.
- Prohibit portable diesel generators and use grid power when it is available. Use propane or natural gas generators when grid power electricity is not feasible.
- Use late model engines.
- Use low emission diesel products.
- Use alternative fuels in construction equipment.
- Use engine retrofit technology to control emissions from off-road equipment.

AQ-3: Reduce Diesel Emissions During Construction from On-Road Vehicles

- *Monitor idling time of diesel-powered trucks, and limit to no more than 2 minutes.*
- *Provide clear signage for construction workers at all access points.*
- *Maintain and properly tune vehicles in accordance with the manufacturers' specifications.*
- *Ensure that construction activity deliveries are scheduled during off-peak hours (e.g., 10 a.m. to 3 p.m.) and are coordinated to consolidate truck trips. When the movement of construction materials and/or equipment impacts traffic flow, provide temporary traffic control (e.g., flag person) to improve traffic flow.*
- *Use late model engines (2010 or new model years).*

- *Use low emission diesel products in on-road vehicles.*
- *Use zero emission or near-zero emission technologies or alternative fuels in on-road vehicles.*
- *Use engine retrofit technology on on-road vehicles.*

Climate Change

Neither U.S. EPA nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG 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 EOs 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.

2.2.7 NOISE AND VIBRATION

2.2.7.1 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.

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.

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 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2-21: Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level Leq(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, televisions 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.

¹Includes undeveloped lands permitted for this activity category.

Figure 2-21 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.

Figure 2-21: Noise Levels of Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

According to Caltrans's *Traffic Noise Analysis Protocol for New Highway Construction and reconstruction Projects*, May 2011, 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) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

If it is determined that the project would have noise impacts, then 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 document discussed noise abatement measures that would likely be incorporated in the project. Caltrans's *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 7dB at one or impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

2.2.7.2 Affected Environment

The analysis summarized in this section is from the Noise Study Report (June 2022) and Noise Abatement Decision Report (May 2023) completed for the proposed project. The CEQA baseline for this section is 2019-2022, when the noise measurements were conducted. The noise study and report were completed in 2022. The NEPA baseline for comparing environmental impacts is the No Build Alternative. The noise study area encompasses all developed and undeveloped land uses surrounding the project limits, with a focus on noise-sensitive land uses. In general, noise-sensitive land uses include areas where serenity and quiet are of extraordinary significance, such as residential land uses, and other community uses such as hospitals, schools, cemeteries, and parks. The existing noise environment throughout the project limits varies by location, depending on site characteristics such as proximity of receptors to SR 78 and I-15; the relative base elevations of roadways and receptors; and the presence of any intervening structures or barriers. Land uses that could be subject to traffic and construction noise impacts from the proposed project were identified through a field investigation. The following land uses were identified in the project area: Single-family and multi-family residences, mobile homes, and common use areas of a multi-family complex and mobile home park: Activity Category B

- Outdoor use area of a college, park: Activity Category C
- College classroom interior: Activity Category D
- Hotel, restaurants, office buildings and commercial facilities: Activity Category E
- Commercial retail uses: Activity Category F

Although all developed land uses are evaluated in this analysis, 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, patios and decks, seating areas of commercial establishments, and the pool area of the hotel.

Land uses in the project area have been grouped into lettered analysis areas that are identified below.

SR 78 is at grade with the surrounding land uses at the west end the project. Moving east, the roadway depresses, then becomes elevated with respect to surrounding land uses at the east end of the project.

Area A: Area A located north of SR 78 between Twin Oaks Valley Road OC and Mission Road OC. This area is a mixture of single-family residences and mobile homes (Activity Category B) along with California College (Activity Categories C and D) as well as restaurants, office buildings, and other commercial establishments (Activity Category E) and retail facilities (Activity Category F).

Area B: Area B is located south of SR 78 between Twin Oaks Valley Road OC and Mission Road OC. This area is a composite of single-family, multi-family residences, and mobile home (Activity Category B) along with a hotel and other commercial establishments (Activity Category E) as well as retail facilities (Activity Category F). The multi-family residence includes first, second, and third story outdoor use areas.

Area C: Area C is located north of SR 78 between Mission Road OC and I-15. This area is a mixture of single-family residences and multi-family residences (Activity Category B) along with the Escondido campus of North Coast Church (Activity Categories C and D) as well restaurants, office buildings, and other commercial establishments (Activity Category E) and retail facilities (Activity Category F).

Area D: Area D is located west of I-15 and north of Valley Parkway. This area consists of hotels and other commercial establishments (Activity Category E) as well as retail facilities (Activity Category F).

Area E: Area E is located north of SR 78 between San Marcos Boulevard OC and Twin Oaks Valley Road OC. This area is a mixture of single-family residences and multi-family residences (Activity Category B) along with a Ramada Limited (Activity Categories E) as well as office buildings and other commercial establishments (Activity Category E) and retail facilities (Activity Category F).

Area F: Area F is located south of SR 78 between San Marcos Boulevard OC and Twin Oaks Valley Road. This area is the location of the University District Specific Plan (UDSP) Urban Village a future multi-family residences development (Activity Category B), as well as restaurants, office buildings, and other commercial establishments (Activity Category E) and retail facilities (Activity Category F).

The existing noise environment in the project area is based on short-term and long-term noise monitoring. The primary objective of the short-term and long-term noise measurements was to evaluate the existing noise environment and calibrate the TNM noise model.

Existing Noise Level Measurements

The existing noise environment in the project area is characterized below based on short-term (20-minute) noise level measurements (and traffic counts).

Short-term noise measurements were conducted at 14 sites in August 2019, December 2020, and May 2022 for a duration of 20 minutes each. Table 2-22 summarizes the short-term noise measurement results, including addresses and land use types.

Table 2-22: Short-Term Noise Measurement Results

Site No. ¹	Street Address, City, State	Area	Land Use ²	Activity Category and (NAC)	Measurement Dates	Start Time ³	Measured Leq(h), dBA	Adjusted Worst-Hour Leq(h), dBA ⁴	Adjusted to Long-Term Site
ST1	103 Valpreda Road, San Marcos, CA	A	SFR	B (67)	08/12/19	12:40 pm	73	74	LT1
ST2	123 E. Carmel Street, San Marcos, CA	B	HOT	E (72)	08/14/19	8:50 am	60	61	LT1
ST3	570 E. Barham Drive, San Marcos, CA	B	MFR	B (67)	08/13/19	10:00 am	61	63	LT2
ST4	855 E. Barham Drive, Grace Church, San Marcos, CA	B	--	F (--)	08/12/19	2:50 pm	68	72	LT3
ST5	855 E. Barham Drive, Grace Park, San Marcos, CA	B	REC	C (67)	08/13/19	2:00 pm	61	63	LT3
ST6	693 Saddleback Way, San Marcos, CA	B	REC	C (67)	08/12/19	2:30 pm	61	63	LT3
ST7	937 Mira Lago Way, Park, San Marcos, CA	B	REC	C (67)	08/12/19	2:00 pm	60	60	LT4
ST8	1219 E. Barham Drive, San Marcos, CA	B	SFR	B (67)	08/13/19	10:50 am	69	70	LT4
ST9	1359 Montiel Road, Escondido, CA	C	SFR	B (67)	08/13/19	2:50 pm	59	61	LT7
ST10	1250 W Valley Parkway, Escondido, CA	C	HOT	E (72)	08/14/19	9:40 am	62	64	LT7
ST 11	Applebee's 573 Grand Avenue, San Marcos, CA	F	COM	E (72)	12/08/20	9:50 am	64	64	LT8
ST 12	233 W San Marcos Blvd, San Marcos, CA	E	MFR	B (67)	12/07/20	12:20 pm	60	60	LT8
ST 13	Urban Village part of the University District Project	E	--	F (--)	12/07/20	11:00 am	79	79	LT8
ST 14	134 Walnut Street, San Marcos	B	--	F (--)	5/11/22	10:50	59	--	--

Notes:

1 - ST – Short-Term Measurements.

2 - Land Use: SFR – single-family residence; MFR – multi-family residence; HOT – hotel; COM – Commercial.

3 - Short-term measured noise levels were measured for a period of 20 minutes.

4 - Measurements conducted during off-peak hours were adjusted to the worst-hour Leq(h) based on a comparison with long-term noise levels measured at a measurement site, listed in the last column.

Long-term noise measurements were conducted to observe hourly noise distribution and identify the worst-noise hours. Long-term noise measurements were conducted at the locations shown in Table 2-23 in August 2019 and December 2020 for 24 to 26 hours to observe hourly noise distribution and identify the worst-noise hours. Table 2-23 summarizes long-term monitoring results, including addresses and land use types of the monitoring locations.

Table 2-23: Long Term Noise Measurement Results

Site No. ¹	Street Address, City, State	Area	Land Use ²	Activity Category and (NAC)	Measurement Dates	Start Time	Measured Worst-Hour Leq(h), dBA	Peak-Hour Time
LT1	500 Rancheros Road, San Dimas, Lot 1, San Marcos, CA	A	MH	B (67)	08/12/19 to 08/13/19	12:00 pm	65	6 pm
LT2	570 E. Barham Road, San Marcos, CA	B	MFR	B (67)	08/13/19 to 08/14/19	9:42 am	64	6 am & 7 am
LT3	340 Flower Hill Way, San Marcos	B	SFR	B (67)	08/12/19 to 08/13/19	10:16 am	58	8 am
LT4	1145 E. Barham Road, San Marcos, CA	B	SFR	B (67)	08/12/19 to 08/13/19	11:12 am	59	2 pm to 6 pm & 6 am to 10 am
LT6	626 Lenora Drive, San Marcos, CA	C	SFR	B (67)	08/13/19 to 08/14/19	1:42 pm	69	1 pm, 5 pm, & 11 am
LT7	733 TruNorth Circle, San Marcos, CA	C	MFR	B (67)	08/13/19 to 08/14/19	1:51 pm	65	11 am & 1 pm
LT8	108 Johnston Lane, San Marcos, CA	C	SFR	B (67)	12/07/20 to 12/08/20	10:04 am	72	10 am to 5 pm & 6 am to 8 am

Notes:

1 - LT – Long-Term Measurements.

2 - Land Use: SFR – single-family residence; MH – mobile home; COM – commercial.

Area A has existing noise measurements ranging from 65 dBA to 74, Area B ranges from 58 to 72, Area C ranges from 61 to 72, Area E from 60 to 79, and Area F was recorded at 64 dBA.

Future Noise Environment and Impacts

Traffic noise levels were predicted using the FHWA Traffic Noise Model Version 2.5 (TNM 2.5). Key inputs to the traffic noise model were the locations of roadways, shielding features, existing soundwalls, ground types, and receiver locations. Receivers, defined as single points, were at frequent outdoor use areas such as residences, schools, and recreational areas.

A comparison of existing noise levels to the projected noise levels in the design year under the No Build Alternative and the Build Alternative is provided. Comparison to existing conditions indicates traffic noise impacts to the receptors; comparison of the Build and No-Build conditions indicated the direct effect of the project.

Where noise levels met the NAC, soundwalls were evaluated to determine if they were reasonable and feasible. The criteria for determining when an abatement measure is reasonable and feasible are provided above in Regulatory Setting.

Reasonableness of noise abatement (for each noise barrier found to be acoustically feasible) must then be determined based on the cost allowance calculation procedure identified in the *Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. A soundwall is considered reasonable if it costs less than the reasonable allowance for that barrier (currently set at a base cost allowance of \$107,000 per benefitted receptor), meets the design goal, and the viewpoints of benefitted receivers have been taken into consideration. The preliminary determination of reasonableness is discussed later in this section.

2.2.7.3 Environmental Consequences

NO BUILD ALTERNATIVE

Under the No Build Alternative, the proposed project would not be constructed, and noise impacts would not occur due to construction or operation of the project.

BUILD ALTERNATIVE

Operational Noise Impacts

Area A

Traffic noise modeling results show that noise levels at the outdoor use areas of the single-family residences and mobile homes are predicted to range from 61 to 74 dBA. Outdoor use areas of California College are predicted to be at 58 dBA, while the interior is predicted to be at 43 dBA. Several commercial facilities, including restaurants and office buildings are predicted to range from 53 dBA to 73 dBA.

These results show that the increase in noise between existing conditions and the design year is predicted to range between 0 and 4 dBA. In some cases, there would be a decrease in noise by as much as 3 dBA due to the addition of safety barriers, which can block tire noise.

Increases in predicted noise levels due to the proposed project are predicted to impact single-family residences and mobile homes, and noise abatement must be considered for this area. However, California College and the commercial establishments are not predicted to approach or exceed the noise abatement criteria, and no substantial increase in noise would occur in those locations.

Area B

Traffic noise modeling indicates that levels at the outdoor use areas of the single-family residences, multi-family residences, and mobile homes are predicted to be in the range of 54 to 77 dBA. The outdoor use areas of the multi-family residences are mainly first and second story receptors, with one third-story receptor. Because the predicted noise levels in the design year are predicted to approach or exceed the noise abatement criterion at the single-family residences, multi-family residences, and mobile homes, traffic noise impacts are predicted to occur. Noise abatement is proposed for these areas.

The outdoor use area of Hampton Inn, as well as other commercial establishments, are predicted to be in the range of 60 to 78 dBA and a retail facility is predicted to be at 76 dBA in the design year. Results of the noise study indicate that the increase in noise between existing conditions and the design year is predicted to range between 0 and 4 dBA. Receptors at Hampton Inn and the commercial establishments are not predicted to approach or exceed the noise abatement criterion, no traffic noise impacts are predicted at these locations. Some commercial establishments may have an increase in

noise, however there are no outdoor uses areas associated with those establishments and noise abatement does not need to be considered.

Area C

Traffic noise modeling results in Area C indicate that traffic noise levels at the outdoor use areas of the single-family residences and multi-family residences are predicted to be in the range of 60 to 80 dBA. Predicted noise levels in the design year are predicted to approach or exceed the noise abatement criterion at the single-family residences and multi-family residences, and traffic noise impacts are predicted to occur. Noise abatement measures must be considered for these areas.

The outdoor use area of the North Coast Church school Campus, as well as other commercial establishments are predicted to be in the range of 60 to 74 dBA. The results indicate that the increase in noise between existing conditions and the design year is predicted to range between 0 and 4 dBA. In some cases, there is a decrease in noise by as much as 5 dBA, due to the addition of safety barriers which blocks tire noise and a berm added along the I-15 Southbound to SR 78 connector for visual landscaping. The commercial establishments that are predicted to have an increase in traffic noise have no outdoor use areas; therefore, noise abatement does not need to be considered.

Area D

The traffic noise modeling at the outdoor use area of the Holiday Inn is predicted to be 64 dBA. The results of the modeling indicate that the noise would decrease by 1dBA between existing conditions and the design year, due to the addition of safety barriers, which block tire noise.

Area E

The traffic noise modeling at the outdoor use areas of the single-family residences and multi-family residences are predicted to be in the range of 53 to 72 dBA. The outdoor use areas of the multi-family residences include first, second story receptors, and some third story receptors. Because the predicted noise levels in the design year are predicted to approach or exceed the noise abatement criterion at some single-family and multi-family residences, traffic noise impacts are predicted to occur and noise abatement must be considered for these areas.

The outdoor use area of the Ramada Limited motel is predicted to be at 68 dBA, with a noise increase of 2 dBA in the design year. Results indicate a decrease in noise by as much as 4 dBA between existing and design year conditions due to the addition of safety barriers which would block tire noise. Because the Ramada Limited and multi-family residences are not predicted to approach or exceed the noise abatement criterion, no traffic noise impacts are predicted at these locations.

Area F

Traffic noise modeling indicate that the levels at the outdoor use areas of the multi-family residences are predicted to be in the range of 46 to 78 dBA, and the traffic noise modeling results indicate that traffic noise levels at the outdoor use area of Applebee's restaurant is predicted to be at 70 dBA. Results of the traffic noise analysis show that several multi-family residences would be impacted by projected traffic noise. However, noise mitigation would be provided by the University District Specific Plan (UDSP) that is part of the San Marcos Heart of the City Specific Business Plan. Due to the UDSP Environmental Impact Report and subsequent amendments, mitigation for this area would be included in UDSP project final design and mitigation analysis would not be conducted under this project. Results indicate that the traffic noise between existing conditions and the design year is predicted to decrease by as much as 17dBA due to the grading needed for the UDSP project.

Construction Noise Impacts

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02. Construction noise would be short-term, intermittent, and overshadowed by local traffic noise.

Construction activities could cause intermittent localized concern from vibration in the project area. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, demolitions, or pavement braking may cause construction related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in close proximity to residential buildings. The vibration levels created by the normal movement of vehicles including graders, front loaders, and backhoes used for construction are the same order of magnitude as the groundborne vibration created by heavy vehicles traveling on streets and highways. Therefore, operating equipment would not generate excessive groundborne noise or vibration. No permanent adverse impacts would occur, and minimization measures would be used to the fullest extent possible.

Under the No Build Alternative, the proposed project would not be constructed, and noise impacts would not occur due to construction or operation of the project.

2.2.7.4 Avoidance, Minimization, and/or Mitigation Measures

Noise abatement measures are considered when noise impacts are predicted in areas of frequent human use that would benefit from lowered noise levels. Noise barriers are the only form of abatement considered for the proposed project. Noise barriers have been evaluated for feasibility based on achievable noise reduction of 5 dB or more. For a noise barrier determined to be acoustically feasible, it was determined if the Caltrans acoustical design goal could be achieved, then reasonable cost allowances were

calculated. Where noise barriers are considered feasible, they would be designed during final design stages.

Any noise increases during construction would be temporary and BMPs described below would be used to lessen its effects. Construction noise is regulated by Caltrans' Standard Specifications, Section 14.8-02 which controls and monitors noise resulting from work activities. To ensure construction impacts are minimized to the extent possible, all equipment items would have manufacturer's recommended noise abatement measures such as mufflers, engine enclosures, and engine vibration isolators. All construction equipment would be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices. Any idling equipment would also be turned off when not in use.

The following are control and minimization measures that would be implemented to minimize noise disturbances at sensitive areas during construction:

NOISE-1: All equipment shall have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.

NOISE-2: Construction methods or equipment that would provide the lowest level of noise impact (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) should be used.

NOISE-3: Idling equipment shall be turned off.

NOISE-4: Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.

NOISE-5: Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.

NOISE-6: Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment would generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).

NOISE-7: Construction lay-down or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be

used, or locations that are at least 100 feet from any noise-sensitive land use (e.g., residences).

NOISE-8: Contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified Acoustical Engineer and submit it for approval. The Plan must outline noise and vibration monitoring procedures at predetermined noise and vibration sensitive sites. The Plan also must include calculated noise and vibration levels for various construction phases and mitigation measures that may be needed to meet the project specifications. The Contractor shall not start any construction work or operate any noise-generating construction equipment at the construction site before approval of the Plan. The Plan must be updated every three months or sooner if there are any changes to the construction activities.

The following are minimization measures that would lessen the potential impacts from construction vibration:

VIB-1: Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).

VIB-2: The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a preconstruction building inspection to document the preconstruction condition of that structure.

VIB-3: Conduct vibration monitoring during vibration-intensive activities.

2.2.8 ENERGY

2.2.8.1 Regulatory Setting

NEPA (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

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.

Director's Policy 23 R1 establish Caltrans policy to incorporate energy efficiency, conservation, and climate change measures into transportation planning, project development, design, operations, and maintenance of transportation facilities, fleets, buildings, and equipment to minimize use of fuel supplies and energy sources and reduce GHG emissions.

2.2.8.2 Affected Environment

State Energy Resources and Consumption

California has a diverse portfolio of energy resources. The state ranked seventh in the nation in crude oil production and third in oil-refining capacity in 2023. The state was the largest consumer of jet fuel and the second-largest consumer of motor gasoline among the 50 states. It was also the second-largest electricity consumer in the nation but only the fourth-largest electricity producer, requiring additional needed electricity be supplied by out-of-state generators. Renewable resources accounted for 54 percent of California's in-state electricity generation in 2023. Though California is the most populous state, it had the fourth lowest per capita energy consumption (i.e., total energy consumption divided by the population) in the nation in 2023 (U.S. Energy Information Administration [U.S. EIA] 2024). California's relatively low per capita energy consumption is due in part to the state's robust energy efficiency policies and legislation.

The transportation sector is the top consumer of energy in California, comprising 41 percent of energy consumption in 2023 (U.S. EIA 2024). The state relies on both nonrenewable and renewable energy sources. Nonrenewable energy resources used in California include petroleum, natural gas, and nuclear power; renewable energy resources include hydroelectric, biomass, wind, solar, and geothermal heat. A total of 54 percent of California's electricity comes from renewable sources, and 44 percent of that renewable energy comes from solar. Fossil fuels have been the leading transportation fuels in the country and state. Gasoline is the most consumed fuel in California, at approximately 56 percent of the total fossil fuel consumption for the state's transportation sector.

Alternatives to fossil fuels for transportation have helped decrease the dependence on gasoline and other fossil fuels. In addition to traditional petroleum fuels, California currently uses the following "alternative" fuels and energy sources: compressed natural gas (CNG); electric (EVC); ethanol, 85 percent (E85); hydrogen; liquefied natural gas (LNG); liquefied petroleum gas (LPG).

Existing Conditions

VMT and traffic operating conditions (e.g., travel speeds) can inform fuel and energy consumption since vehicle activity results in fuel and energy consumption. Table 2-24 presents the daily VMT and fuel consumption under existing conditions (2020) for the project area.

Table 2-24. Existing Conditions Operational Vehicle Miles Traveled and Energy Consumption

Description	Existing Conditions (2020)
Daily Vehicle Miles Traveled (miles/day)	1,708,778
Daily Gasoline Fuel Consumption (gallons/day)	124,877
Daily Diesel Fuel Consumption (gallons/day)	14,793

Source: Caltrans 2023, 2024

2.2.8.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and ramps. Existing deficiencies and network effects mentioned in Section 1.2 of this document (Purpose and Need) would remain. As shown in Table 2-25, the No Build Alternative would result in an increase in daily VMT compared to existing conditions, which can be attributed to regional growth in population and employment. Due to improvements in vehicle fleets and vehicle fuel efficiencies, fuel consumption is anticipated to decrease in the future compared to the existing conditions. However, the No Build Alternative would not provide the regional connectivity and operational improvements to travel in the region; thus, fuel consumption and VMT under the No Build Alternative would be higher than under the Build Alternative, as discussed in detail below. Unlike the Build Alternative, since the No Build Alternative would maintain the current configuration of the I-15/SR 78 interchange, lanes along SR 78, and ramps, the No Build Alternative would not result in a temporary increase in energy consumption during construction activities.

Table 2-25. No Build Alternative Operational Vehicle Miles Traveled and Energy Consumption

Description	No Build Alternative (2050)
Daily Vehicle Miles Traveled (miles/day)	1,849,304
Daily Gasoline Fuel Consumption (gallons/day)	84,317
Daily Diesel Fuel Consumption (gallons/day)	11,946

Source: Caltrans 2023, 2024

BUILD ALTERNATIVE

The purpose of the project is to provide reliable and sustainable transportation options, reduce travel times, improve mobility and access to jobs, housing, and services within North County communities near the project, as envisioned in the 2021 Regional Plan and Draft 2025 Regional Plan. To accomplish the purpose, the project incentivizes modes that have lower per capita emissions than SOVs, minimize VHT by reducing the number of vehicles and time spent traveling, and complete a key element of the region's planned managed lanes system. The Build Alternative would result in direct but temporary fuel usage during construction (short-term) as well as the direct operational fuel consumption (i.e., vehicles using the facility; long-term).

Long-Term Impacts

As described previously, direct energy calculations for transportation projects are informed by VMT and traffic operating conditions (e.g., travel speeds). Table 2-26 summarizes daily VMT and fuel consumption for the project study area under the design year for the Build Alternative.

Table 2-26. Build Alternative Operational Vehicle Miles Traveled and Energy Consumption

Description	Build Alternative (2050)	Change from Existing Conditions (2020)	Change from No Build Alternative (2050)
Daily Vehicle Miles Traveled (miles/day)	1,782,731	+73,953	-66,573
Daily Gasoline Fuel Consumption (gallons/day)	80,366	-44,511	-3,951
Daily Diesel Fuel Consumption (gallons/day)	11,301	-3,492	-645

Source: Caltrans 2023, 2024

As shown in Table 2-26, the Build Alternative would result in a decrease in vehicle miles traveled and gasoline and diesel fuel consumption compared to the No Build Alternative. Although the Build Alternative in 2050 would result in higher daily vehicle miles traveled than existing conditions (2020), which can be attributed to expected population growth and increased employment in the region, gasoline and diesel fuel consumption would still be anticipated to decrease. The decrease in fuel consumption can be attributed to improvements to the overall movement of people and goods between I-15 and SR 78, improvements in mobility and trip reliability, facilitation of other modes of transportation, including bus rapid transit, cycling, walking, reductions in vehicle weaving and cut through traffic, as well as improvements to vehicle fleet fuel efficiency due to regulatory requirements. Therefore, the Build Alternative would reduce energy consumption, and the Build Alternative would not adversely affect energy resources.

Short-Term Impacts

Project construction would be a temporary commitment of energy, necessary for any infrastructure improvement project. Energy consumption during construction would be conserved and minimized to the maximum extent feasible. Energy conservation in construction activities is assumed, as the construction contractor would have a financial incentive and statutory mandate to minimize waste and externalities, respectively. For example, regulations that stipulate the reduction of energy-related externalities include CARB Title 13, Section 2485 of California Code of Regulations. This regulation limits the idling time of diesel construction equipment.

Energy usage for construction was calculated based on the results of the Caltrans California Construction Emissions Tool 2021 (CAL-CET2021), Version 1.0.2, as reported in the project's AQR. Table 2-27 summarizes the annual fuel and electricity consumption associated with construction of the Build Alternative.

Table 2-27. Annual Construction Fuel and Electricity Consumption

Year	Diesel Fuel (gallons)	Gasoline Fuel (gallons)	Electricity (kWh)
2027	24,038	4,923	2,518
2028	200,918	35,985	27,894
2029	219,282	41,378	42,482
2030	59,885	15,863	12,098
2031	95,012	24,050	34,722
2032	169,182	65,715	108,655
2033	5,249	2,120	4,253
Total	773,567	190,032	232,621

Source: Calculated by AECOM in 2023

Notes: kWh = kilowatt-hour

As shown in Table 2-27, construction of the Build Alternative would require 773,567 gallons of diesel and 190,032 gallons of gasoline, as well as 232,621 kilowatt-hours of electricity. These energy use estimates represent 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 not a permanent new source of energy demand, and demand for fuel would have no noticeable effect on peak or baseline demands for energy. Although construction of the Build Alternative would require a temporary increase in energy consumption, as described previously, the Build Alternative would allow for a long-term reduction in energy consumption due to the reduction in VMT as well as operational improvements compared to the No Build Alternative.

The proposed project would include multi-modal improvements to provide reliable and sustainable transportation options, reduce travel times, and improve access to jobs, housing, and services within North County. As discussed in Chapter 1 in more detail, the Build Alternative would include bicycle and pedestrian improvements, upgrades to traffic signals to improve operations and safety, reduce weaving and cut through traffic, incentive the use of carpools, van pools, reducing SOVs, as well as support bus rapid transit, thus supporting mode shift and reducing fossil fuel (i.e., non-renewable) consumption for transportation. The project design and direct energy conservation features are therefore consistent with energy regulations and policies promoting energy efficiency and renewable energy.

The energy expenditure required for construction of the Build Alternative would be necessary to achieve the direct energy benefits discussed above. While indirect energy would be consumed during construction, best management practices would be implemented to conserve energy and reduce diesel fuel consumption (refer to Section 2.2.6, Air Quality). Therefore, the Build Alternative would not result in an inefficient, wasteful, and unnecessary consumption of energy.

2.2.8.4 Avoidance, Minimization, and/or Mitigation Measures

As described previously, because the majority of emissions result from the combustion of fossil fuels, the minimization measures applicable to air quality (Section 2.2.6) that would reduce fossil fuel combustion, would also result in a reduction in energy consumption. Thus, AMMs AQ-2 (Reduce Diesel Emissions during Construction from Off-Road Vehicles) and AQ-3 (Reduce Diesel Emissions during Construction from On-Road Vehicles) in Section 2.2.6 would also reduce energy consumption. Therefore, no additional avoidance, minimization, or mitigation measures are required.

2.3 BIOLOGICAL ENVIRONMENT

The information in this section is based on the Natural Environment Study (NES) prepared for the proposed project by Caltrans in December 2024. The information in this section is also based on the Location Hydraulic Study, prepared for the proposed project by Caltrans in April 2025.

The Biological Study Area (BSA), known as the area where the biological assessment was conducted, consists of mostly developed urban areas with some adjacent agriculture and fields and pastures and sparse natural communities. Adjacent land uses include industrial, commercial, transit, and residential use types.

The climate of the area is derived from a marine influence, characterized by warm, dry summers and mild, wet winters. Winds prevail from the west, off the ocean, and tend to moderate temperatures throughout the year. Average maximum temperature at Escondido is 77.2 degrees Fahrenheit and the average minimum temperature is 52.3 degrees Fahrenheit. Precipitation is generally 14.93 inches annually (Western Regional Climate Center 2023).

Developed areas have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures mostly from the residential and commercial development surrounding I-15 and SR 78, pavement or hardscape of I-15, SR 78, and adjacent roads, and landscaped areas that often require irrigation. Developed habitat dominates the BSA, with approximately 1,117 acres of urban development occurring within the BSA.

A list of sensitive wildlife and plant species potentially occurring within the BSA in the Escondido and San Marcos 7.5-minute USGS quadrangles was compiled to evaluate potential impacts resulting from the project. The list was developed based on information compiled from the USFWS, CDFW, CNDDDB, CNPS, and other current publications. The list shown in Table 2 in the NES includes 75 species (30 plant species, six invertebrates, two amphibians, nine reptiles, 15 birds, and 13 mammals) and six sensitive vegetation communities with the potential to occur in the BSA, their protection status, habitat information, likelihood of occurrence within the BSA, and supporting comments as necessary. Based on the availability of suitable habitat within the species' known range and previous species occurrences, the habitat within the BSA

was determined to be suitable for five species (one plant species, three birds, and one mammal in Table 2 in the NES) and one habitat. There is a total of 18 threatened, endangered, or candidate species on the species list provided by the USFWS on August 3, 2023.

2.3.1 NATURAL COMMUNITIES

2.3.1.1 Affected Environment

There is approximately 57 acres of natural communities of special concern within the BSA consisting of 6.5 acres of southern riparian woodland, 5.5 acres of southern riparian scrub, 8.0 acres of valley and foothill grassland, 17.6 acres of nonnative grassland, and 19.4 acres of coastal sage scrub. Southern riparian woodland and nonnative grassland does not occur within the project footprint; and therefore, would not be discussed further. Impacted natural communities are primarily disturbed types of upland communities.

Eight primary vegetation communities occur within the BSA of the project: urban/developed, field and pasture, intensive agriculture, valley and foothill grassland, nonnative grassland, Diegan coastal sage scrub, southern riparian scrub, and southern riparian woodland habitats. Of the eight, there are three natural communities as shown in Table 2-28.

Table 2-28: Natural Communities Occurring in the BSA.

Vegetation Community	Acres
<i>Upland</i>	
Diegan Coastal Sage Scrub, including Disturbed	7.0
Valley and Foothill Grassland	8.0
<i>Wetland</i>	
Southern Riparian Scrub	0.1

Diegan Coastal Sage Scrub (CSS)

There is approximately 19.4 acres of Diegan coastal sage scrub (CSS) habitat in the BSA. This plant community is composed of a variety of low, soft aromatic shrubs dominated by drought- deciduous species such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), deerweed (*Acmispon glaber*), San Diego County viguiera (*Bahiopsis laciniata*), and coyote bush (*Baccharis pilularis*). Disturbed CSS contains a mixture of native CSS vegetation (California sagebrush, California buckwheat, laurel sumac, San Diego County viguiera, broom baccharis [*Baccharis sarothroides*], goldenbush [*Isocoma menziesii*], and common tarplant [*Deinandra fasciculata*]) with deergrass (*Muhlenbergia rigens*), telegraph weed (*Heterotheca grandiflora*) and nonnative vegetation (nonnative grasses, mustard [*Brassica* spp.], tocalote [*Centaurea melitensis*], sweet fennel

[*Foeniculum vulgare*], Mexican fan palm (*Washingtonia robusta*), and spreading prostrate acacia [*Acacia redolens*]).

Valley and Foothill Grassland (VFG)

There is approximately 8.0 acres of valley and foothill grassland habitat on a slope above eastbound SR 78 just west of the Barham Drive/Woodland Parkway off-ramp. The valley and foothill grassland habitat consists mostly of native purple needlegrass (*Stipa pulchra*), along with patches of California buckwheat and deerweed as well as native herbs dispersed through the area including San Diego wire-lettuce (*Stephanomeria diegensis*) and narrow-leaf milkweed (*Asclepias fascicularis*). There is also nonnative vegetation throughout the slope, including fountaingrass (*Pennisetum setaceum*), mustard, Russian thistle (*Salsola tragus*), oat, brome (*Bromus* spp.), and barley (*Hordeum* spp.).

Southern Riparian Scrub (SRS)

There is approximately 5.5 acres of southern riparian scrub habitat in San Marcos Creek and its tributaries in the BSA. One tributary consists of a drainage running north to south in the area where Barham Drive would be realigned. The habitat consists mostly of native riparian vegetation dominated by black willow (*Salix gooddingii*) and mulefat (*Baccharis salicifolia*), but also some nonnative vegetation including Mexican fan palm, salt cedar (*Tamarix ramosissima*), and tree tobacco (*Nicotiana glauca*).

2.3.1.2 Environmental Consequences

No BUILD ALTERNATIVE

The No Build Alternative would have no impact related to Natural Communities.

BUILD ALTERNATIVE

Under the Build Alternative, the following impacts are anticipated:

Diegan Coastal Sage Scrub (CSS)

Approximately 7 acres of Diegan coastal sage scrub (CSS) would be permanently impacted, much of which is disturbed. CSS occurs on a slope along the eastern end of the Build Alternative, while disturbed CSS occurs throughout the middle of that area. The Build Alternative would impact much of the CSS habitat. There is approximately 1 acre of CSS and 6 acres of disturbed CSS in the Build Alternative that would be permanently impacted.

Valley and Foothill Grassland (VFG)

SR 78 widening west of Barham Drive would also permanently impact 0.4 acre of valley and foothill grassland.

Southern Riparian Scrub (SRS)

The Build Alternative would result in 0.1 acre of impacts of southern riparian scrub to the tributary of the San Marcos Creek. This impact would be located west of the Barham Park and Ride, located at 755E E Barham Dr, San Marcos, CA 92078, and would be a result of the Barham Drive reconfiguration, accessing work locations, clearing, grading, and excavation.

2.3.1.3 Avoidance, Minimization, and/or Mitigation Measures

CONSERVATION MEASURES

Caltrans has agreed to implement the following general and species-specific conservation measures (CMs) as part of the proposed action to avoid and minimize impacts to the gnatcatcher and monarch butterfly:

CM-1: Permanent impacts to a total of 7 acres of gnatcatcher occupied coastal sage scrub (including disturbed) habitat and 0.1 acre of southern riparian scrub at Barham Drive would be mitigated by debiting 8 acres of coastal sage scrub credits and 0.2 acre of riparian scrub credit from the gnatcatcher occupied Sage Hill Mitigation Bank and Ranch San Diego Mitigation Bank, respectively. Documentation that credits have been debited would be provided to the CFWO prior to the commencement of vegetation removal and project construction.

CM-2: Permanent impacts to 0.4 acre of monarch occupied disturbed valley and foothill grassland habitat would be offset at a 2:1 mitigation ratio by debiting 0.8 acres of native grassland habitat at the Rancho San Diego Mitigation Bank. Documentation that the habitat has been conserved would be provided to the CFWO prior to the commencement of vegetation removal and project construction. Temporary impacts to 2.6 acres of disturbed valley and foothill grassland would be restored onsite to valley and foothill grassland at a 1:1 ratio.

CM-3: All narrow-leaf milkweed outside and adjacent to the construction limits would be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs would be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris would be allowed within the ESAs. Temporary ESA fencing and flagging would be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. Caltrans would submit to the CFWO, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans would include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. Field maps indicating the location of temporary ESA fencing and/or staking would also be provided. If work occurs beyond the fenced or demarcated limits of impact, all work would cease until the problem has been remedied to the satisfaction of the CFWO. Temporary ESA fencing and markers would be maintained in

good repair until the completion of project work and removed upon completion of project work.

CM-4: All vegetation clearing at Barham Drive would occur from September 1 to February 14 to avoid the gnatcatcher breeding season (or sooner if a CFWO-approved project biologist demonstrates to the satisfaction of the CFWO that all nesting is complete).

CM-5: A biologist (Project Biologist)¹² approved by the CFWO would be on site during all vegetation clearing at Barham Drive to monitor compliance with all CMs. Caltrans would submit the biologist's name, contact information, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts. The Project Biologist would be provided with a copy of this consultation. The Project Biologist would be available during pre-construction and construction phases to address protection of sensitive biological resources, monitor ongoing work, and maintain communications with construction personnel to facilitate the appropriate and lawful management of issues relating to biological resources. The project biologist would perform the following duties:

- a. For vegetation clearing outside the gnatcatcher breeding season, perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers in the project impact footprint. Surveys would begin a maximum of 30 days prior to performing vegetation clearing, and one survey would be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the project impact footprint, the project biologist would direct workers to begin initial vegetation clearing in an area away from gnatcatchers. In addition, the project biologist would passively flush birds toward areas of appropriate vegetation that is to be avoided. It would be the responsibility of the project biologist to ensure gnatcatchers would not be injured or killed by initial vegetation clearing/grubbing. The project biologist would record the number and map the location of gnatcatchers disturbed by initial vegetation clearing/grubbing or construction and report these numbers and locations to the CFWO within 24 hours.
- b. Train all contractors and construction personnel a maximum of 14 days prior to project construction on the biological resources associated with the projects and ensure that training is implemented by construction personnel. At a minimum, training would include: (i) the purpose for resource protection; (ii) a description of the gnatcatcher and its habitat; (iii) the conservation measures given in the biological opinion that should be implemented during project construction to conserve the sensitive resources; including strictly limiting activities, vehicles, equipment, and

¹² The Project Biologist will be trained ornithologist with at least 40 hours in the field observing gnatcatchers and documented experience locating and monitoring gnatcatcher nests. In order to receive CFWO approval, the biologist's name, address, telephone number, and work schedule on the project must be submitted to the Agencies at least 5 working days prior to initiating project impacts.

construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); (iv) best management practices in CM 5; (v) the protocol to resolve conflicts that may arise at any time during the construction process; and (vi) the general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with noncompliance with the Act.

- c. Submit monthly email reports (including photographs of impact areas) to the CFWO during vegetation clearing. The monthly reports would document that authorized impacts were not exceeded and general compliance with all CMs. The reports would also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports would specify the number, locations and sex of gnatcatchers (if observed), their observed behavior (especially in relation to project activities), and any remedial measures employed to avoid and minimize impacts to gnatcatchers. Raw field notes should be available upon request by the CFWO.
- d. Submit a final report to the CFWO within 60 days of project completion or maintenance including as-built construction drawings with an overlay of habitat that was impacted and avoided; photographs of impact areas and adjacent habitat that was to be avoided; other relevant documentation that authorized impacts were not exceeded and that general compliance with all CMs was achieved. The report would also summarize the number, locations, and sex of gnatcatchers (if observed); their observed behavior (especially in relation to project activities); and any remedial measures employed to avoid and minimize impacts to gnatcatcher. Raw field notes should be available upon request by the CFWO.

CM-6: Caltrans would submit a valley and foothill grassland restoration plan to the Service for approval within 30 days of initiating project impacts. This plan would include the following information and conditions:

- a. All final specifications and topographic-based planting and irrigation plans for the restoration site. The restoration site would be prepared for planting by decompacting the topsoil in a way that mimics natural grassland habitat topsoil to the maximum extent practicable while maintaining slope stability. Any salvaged topsoil would be redistributed upon completion of decompaction. Salvaged soil is not recommended in areas that have a high component of non-native species (i.e., disturbed habitat). If possible, seed collection would occur within impacted areas prior to vegetation clearing. These seeds would be used as a seed source for the restoration and enhancement areas to the maximum extent practicable. Planting and irrigation would not be installed until the Service has approved of the restoration site preparation. All plantings would be installed in a way that mimics natural plant distribution, and not in rows.

- b. Planting palettes (plant species, size, and number/acre) and seed mix (plant species and pounds/acre). Seed mix would include narrow-leaf milkweed and native monarch nectar plants. Unless otherwise approved by the Service, only locally native species (no cultivars) obtained within San Diego County available from as close to the project area as possible would be used. The source and proof of local origin of all plant material and seed would be provided.
- c. Container plant survival would be 100 percent of the initial plantings for the duration of the plant establishment period (PEP). All dead plants documented within the PEP would be replaced.
- d. A final implementation schedule that indicates when all habitat impacts, as well as habitat restoration and enhancement grading, planting, and/or irrigation would begin and end. Necessary site preparation and planting would be completed after receiving Service approval of site grading and preparation.
- e. Three years of success criteria for valley and foothill grassland restoration and enhancement areas including: minimum combined native grasses and forb cover is at least 60 percent relative cover; evidence of natural recruitment of multiple species; 0 percent coverage for Cal-IPC List A and B species, and no more than 25 percent coverage for other exotic/weed species.
- f. A minimum 3 years of maintenance and monitoring of habitat restoration and enhancement areas, unless success criteria are met earlier, and all artificial water supply has been off for at least 2 years.
- g. A qualitative and quantitative monitoring plan with a map of proposed sampling locations. Photo points would be used for qualitative monitoring and a stratified-random sampling design would be used for all quantitative monitoring. Monitoring would include protocol surveys for gnatcatcher.
- h. Contingency measures in the event of habitat restoration or enhancement failure.
- i. Annual maintenance and monitoring reports would be submitted to the Agencies no later than December 1 of each year.

CM-7: During project construction all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's Invasive Plant Inventory list (Cal-IPC 2006) found growing within the project impact area would be identified and removed at least once a month. Special care would be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction would be properly disposed of to prevent spread into areas outside of the construction

area. All heavy equipment would be washed and cleaned of debris prior to entering a new area to minimize the spread of invasive weeds.

CM-8: Caltrans would ensure that the following best management practices are implemented during project construction or maintenance in order to minimize potential impacts to the gnatcatcher:

- a. Employees would strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint.
- b. To avoid attracting predators of the gnatcatcher, the project site would be kept as clean of debris as possible. All food related trash items would be enclosed in sealed containers and regularly removed from the site. Pets of project personnel would not be allowed on the project site.
- c. Impacts from fugitive dust would be minimized through watering and other appropriate measures.
- d. The project site would be kept as clear of debris as possible. All food-related trash shall be enclosed in sealed wildlife-proof containers and removed from the site daily.
- e. All construction-related debris, excess materials, and building materials shall be removed from the Project site for disposal at an authorized landfill or other disposal site in compliance with federal, state, and local laws and regulations.

Diegan Coastal Sage Scrub

Avoidance and minimization of potential effects to Diegan Coastal Sage Scrub (CSS) occurring adjacent to the project area would be achieved through implementation of the following measures:

CSS-1: CSS habitat outside of the construction area would be designated as an environmentally sensitive area (ESA) on the project plans and protected by installing temporary ESA fencing, if needed.

CSS-2: All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be outside of areas with CSS habitat. Any debris or runoff from the construction would be directed away from CSS habitat.

CSS-3: Appropriate erosion and siltation controls would be installed prior to construction and maintained until construction completion.

CSS-4: Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate measures.

CSS-5: The project site would be kept as clean of debris as possible.

CSS-6: Compensatory mitigation would be required for permanent impacts to 1 acre of CSS and 7 acres of disturbed CSS. CSS habitat at the Sage Hill Mitigation Bank would be debited at 8 acres to mitigate at a 2:1 ratio for the permanent impacts to CSS and a 1:1 ratio for permanent impacts to disturbed CSS.

Valley and Foothill Grassland

Avoidance and minimization of potential effects to Valley and Foothill Grassland occurring adjacent to the project area would be achieved through implementation of the following measures:

VFG-1: Temporary impacts to 2.6 acres of valley and foothill grassland habitat from the project would be offset by restoring the temporarily impacted areas to pre-construction conditions. Caltrans proposes the native seed mix in Table 2-29 to be applied to temporarily impacted areas. Temporary impact areas would be seeded as soon as possible following regrading after completion of construction to prevent encroachment by nonnative plants.

Table 2-29: Proposed Seed Mix for Temporary Impacted Grassland Areas

Scientific Name	Common Name	Pure Live Seed per Acre
<i>Acmispon glaber</i>	Deerweed	1.0
<i>Asclepias fascicularis</i>	Narrow-leaf milkweed	2.0
<i>Bromus carinatus</i>	California brome	2.0
<i>Elymus glaucus</i>	Blue wildrye	2.0
<i>Eriogonum fasciculatum</i>	California buckwheat	1.0
<i>Hordeum brachyantherum</i>	Barley	2.0
<i>Melica imperfecta</i>	Melic	1.0
<i>Stipa pulchra</i>	Purple needlegrass	4.0

VFG-2: Valley and foothill grassland habitat outside of the construction area would be designated as an environmentally sensitive area (ESA) on the project plans and protected by installing temporary ESA fencing, if needed.

VFG-3: All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be outside of areas with valley and foothill grassland habitat. Any debris or runoff from the construction would be directed away from valley and foothill grassland habitat.

VFG-4: Appropriate erosion and siltation controls would be installed prior to construction and maintained until construction completion.

VFG-5: Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate measures.

VFG-6: The project site would be kept as clean of debris as possible.

VFG-7: Compensatory mitigation would be required for permanent impacts to 0.4 acre of valley and foothill grassland. Native grassland habitat at the Rancho San Diego Mitigation Bank would be debited at 0.8 acre to mitigate at a 2:1 ratio for the permanent impacts to valley and foothill grassland.

Southern Riparian Scrub

Avoidance and minimization of potential effects to southern riparian scrub habitat occurring adjacent to the project area would be achieved through implementation of the following measures:

SRS-1: Southern riparian scrub habitat outside of the construction area would be designated as an ESA on the project plans and protected by installing temporary ESA fencing, if needed.

SRS-2: All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be outside of areas with southern riparian scrub habitat. Any debris or runoff from the construction would be directed away from southern riparian scrub habitat.

SRS-3: Appropriate erosion and siltation controls would be installed prior to construction and maintained until construction completion.

SRS-4: Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate measures.

SRS-5: The project site would be kept as clean of debris as possible.

SRS-6: Compensatory mitigation would be required for permanent impacts to 0.1 acre of southern riparian scrub. Riparian scrub habitat at the Rancho San Diego Mitigation Bank would be debited at 0.2 acre to mitigate at a 2:1 ratio for the permanent impacts to southern riparian scrub.

2.3.2 WETLANDS AND OTHER WATERS

2.3.2.1 Regulatory Setting

The 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] Part 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 Caltrans, 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. See Section 2.2.2, Water Quality and Stormwater Runoff, for more details.

2.3.2.2 Affected Environment

The State of California defines wetlands by only needing one of the three criteria of hydrophytic vegetation, hydrology, or hydric soils. The State wetland onsite was determined by dominant vegetation onsite including black willow and mulefat.

Disturbed wetlands consist of areas permanently or periodically inundated by water, which have been significantly modified by human activity. This includes portions of wetlands with obvious artificial structures. Approximately 10.2 acres of disturbed wetland exists within the BSA, including Escondido Creek.

A tributary to the San Marcos Creek at the proposed Barham Drive interchange is listed on the National Wetland Inventory as a R4SCB Riverine Wetland.

2.3.2.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would have no impact related to wetlands or other waters.

BUILD ALTERNATIVE

As mentioned in Section 2.3.1 (Natural Communities), the Build Alternative would result in 0.1 acre of impacts of wetland, which includes southern riparian scrub to the tributary of the San Marcos Creek. Section 401, Section 404, and Section 1600 permits are in process.

2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans would coordinate with the USACE, CDFW, and RWQCB due to permanent and temporary impacts to jurisdictional waters of the United States and jurisdictional waters of the State and would determine the permits needed.

The following avoidance measures would be implemented to avoid permanent and temporary impacts to waters of the United States/waters of the State under the jurisdiction of the USACE, CDFW, and RWQCB.

WATER-1: Temporary impacts to jurisdictional waters would be mitigated by restoring would be offset by restoring the temporarily impacted areas to pre-construction conditions.

WATER-2: The temporary construction staging areas, access roads, and equipment storage shall be strategically placed at a minimum of 100 feet to avoid impacts to jurisdictional waters.

WATER-3: The jurisdictional water features outside of the work areas shall be designated as an ESA on the project plans.

WATER-4: If needed, the ESA would be temporarily fenced using ESA fencing or lathe with flagging tape to exclude construction activities from the area. The Project Biologist would be onsite during the staking to identify the boundaries of the jurisdictional waters and shall supervise the placement of ESA exclusion fencing. The temporary fences around the ESAs, if needed, shall be installed as the first order of work. The locations of the ESA exclusion fence would be documented on construction maps.

2.3.3 PLANT SPECIES

2.3.3.1 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 2.3.5 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. Department 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.

2.3.3.2 Affected Environment

The plants listed are considered special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on site. There was one sensitive plant species that historically occurred within the BSA, southern tarplant (*Centromadia parryi* ssp. *australis*). Suitable habitat supporting southern tarplant, valley and foothill grassland, occurs in the area.

2.3.3.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would have no impacts related to plant species.

BUILD ALTERNATIVE

As noted above, although suitable habitat for southern tarplant occurs in the area, field assessments did not identify tarplant within the BSA.

2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization of potential effects to special status plant species are not required, as none were found within the BSA.

2.3.4 ANIMAL SPECIES

2.3.4.1 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), 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 (2.3.5). All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries 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

2.3.4.2 Affected Environment

The animals listed are considered special concern 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. Tricolored blackbirds (*Agelaius tricolor*) and Townsend's big-eared bats (*Corynorhinus townsendii*) occurred historically within the project limits. However, habitat suitable for tricolored blackbirds and Townsend's big-eared bats do not occur within the project footprint.

Two listed animal species were identified in the USFWS species list that may occur within the proposed project location, or may be affected by the proposed project, the federally threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) and the federally endangered least Bell's vireo (*Vireo bellii pusillus*). Least Bell's vireo have been detected in the riparian woodland of the San Marcos Creek occurring adjacent to the project footprint. However, this habitat would be avoided. No designated critical habitat for either species occurred within the BSA. Narrow leaf milkweed, which is a host plant for the federal candidate monarch butterfly (*Danaus plexippus*), was identified in the valley and foothill grassland habitat within the project footprint.

Coastal California Gnatcatcher

CAGN is a small, long-tailed member of the thrush family Muscicapidae (USFWS 1993). CAGN is one of three subspecies of the California gnatcatcher and is restricted to coastal southern California and northwestern Baja California, Mexico. The CAGN occurs almost exclusively in the coastal sage scrub plant community, usually dominated by coastal sagebrush. The CAGN is non-migratory and defends breeding territories ranging in size from 2 to 14 acres during the nesting season from late February through July. CAGN were considered locally common in the mid-1940's. However, increases in urban development, fire, host plant displacement, as well as other forms of habitat modification have resulted in fragmentation and isolation of populations. The CAGN was listed by USFWS as a threatened subspecies on March 30, 1993 (USFWS 1993). Critical habitat for the CAGN was designated in Los Angeles, San Bernardino, Orange, Riverside and San Diego Counties on October 24, 2000; with revisions in 2003 adding Ventura County and 2007 (USFWS 2007). Based on information received after the proposed rule was published, the USFWS estimates that about 2,562 pairs of CAGN remain in the United States, with 1,514 pairs occurring in San Diego County (USFWS 1993). Most recent data suggest an increasing population of CAGN with a 13.42 percent and 9.49 percent increase in numbers of CAGN in California and San Diego County, respectively, between 2000 and 2008 (USFWS 2010).

Due to historical occurrences within the BSA, protocol surveys for CAGN were conducted on June 23, July 1, and July 8, 2021. A nesting pair of California gnatcatchers and their young were observed within the project footprint on July 1 and July 8 at the parcel where the Build Alternative is proposed.

2.3.4.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would have no impact related to animal species.

BUILD ALTERNATIVE

As shown on Figure 2-22, Permanent impacts to a 10-acre parcel containing coastal sage scrub habitat are anticipated, and coordination with the US Fish and Wildlife Service has occurred. A Biological Opinion was received January 8, 2025, and details mitigation to be incorporated into the project. Permanent impacts are anticipated to CAGN, one acre of coastal sage scrub, and 6 acres of disturbed coastal sage scrub would occur from the Build Alternative.

Several migratory birds were detected during surveys of the BSA. Therefore, measures would be implemented to avoid impacts to birds during the nesting season, which typically occurs between February 15 and September 1.

2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

Due to the presence of CAGN, the implementation of avoidance and minimization measures below would be implemented:

CAGN-1: A biologist (Project Biologist) approved by USFWS would be onsite: a) during all vegetation clearing and grubbing; and b) weekly during project construction within 500 feet of CAGN habitat to ensure compliance with all conservation measures. The Project Biologist would be familiar with CAGN and their habitat and would have experience monitoring this species. Caltrans would submit the name, address, telephone number, and work schedule of the Project Biologist on the project to USFWS at least 15 working days prior to initiating project impacts. The Project Biologist would have a copy of the USFWS Biological Opinion during project construction.

CAGN-2: To the extent possible, vegetation removal at the Build Alternative would occur outside of the CAGN nesting season, which occurs between February 15 and August 31. If activities occur during the nesting season, a mandatory preconstruction survey by a qualified biologist would be conducted to ensure that no nesting CAGN is present in the proposed work area. Should a CAGN nest site be located, appropriate measures may include designation of the location as an ESA and delaying or restricting project activities until nesting and fledging is completed. If active nests are identified within 500 feet of noise generating construction activities and construction noise exceeds ambient noise levels, measures would be implemented to reduce noise to ambient levels at the nest location.

Legend

- Location of Coastal California Gnatcatcher Family-July 2021
- Southern Riparian Scrub-0.1 Acre Permanent Impacts
- Valley & Foothill Grassland-0.4 Acre Permanent Impacts
- Valley & Foothill Grassland-2.6 Acres Temporary Impacts
- Disturbed Coastal Sage Scrub-2.3 Acres Permanent Impacts
- Coastal Sage Scrub-1.0 Acre Permanent Impacts

200 100 0 200 400 600 800 1,000 Feet

Source: San JERRE, Samir, Internet, Infrared Corp., SEBAG, USGS, F&G, NP&S, URBAN, GEOSPACE, R/W, REPAIR, ALL CORPORA, SURVEY, END JAPAN, METU, SAN CHINA HONG KONG, CO. OPENWORLD, TERRAIN DATA AND THE S12 USER COMMUNITY, CFI, S12 BRANCH AND DVI SUBSET INSPECTION PROGRAM, NATION, BLANK 11 S12.

CAGN-3: CAGN habitat outside of the construction area would be designated as an ESA on the project plans and protected by installing temporary ESA fencing, if necessary. Construction personnel would be instructed to take care to avoid effects from activities including, but not limited to, trampling during construction activities and herbicide drift during restoration activities to areas with suitable CAGN habitat. Work would not occur beyond the fenced or demarcated limits of impact. Temporary construction fencing and markers would be removed upon project completion.

CAGN-4: During project construction, all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory list found growing within the project ROW would be removed. Weed removal would be conducted within the project ROW as needed during the construction and restoration period. Special care would be taken during transport, use, and disposal of soils containing invasive weed seeds, and all weedy vegetation removed during construction would be properly disposed of to prevent spread into areas outside of the construction area.

CAGN-5: Appropriate erosion and siltation controls would be installed prior to the onset of vegetation clearing and be maintained in good repair until the completion of project construction. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, would be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

CAGN-6: All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be restricted to designated areas that are outside of habitat suitable for CAGN and are a minimum of 100 feet from drainages and associated plant communities.

CAGN-7: Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate best management practices (BMPs).

CAGN-8: The project site would be kept as clean of debris as possible. All food-related trash items would be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal would be disposed of properly.

CAGN-9: If fill must be borrowed from or disposed of offsite, the construction contractor would identify any necessary borrow and disposal sites and provide this information to Caltrans for review.

CAGN-10: If nighttime construction is necessary, all lighting used at night (e.g., lighting of staging areas, equipment storage sites, or the roadway) would be selectively placed and directed onto the roadway or construction site and away from sensitive habitats. Light glare shields would be used to reduce the extent of illumination into sensitive habitats.

CAGN-11: Project personnel would be prohibited from bringing domestic pets to construction sites to ensure that domestic pets do not disturb or depredate wildlife in adjacent habitats.

Compensatory mitigation **CSS-6** would be required for permanent impacts to 1 acre of CSS and 6 acres of disturbed CSS.

Migratory Birds

Due to the presence of Migratory Birds, the implementation of avoidance and minimization measures below would be implemented to avoid impacts to birds during the nesting season, which typically occurs between February 15 and September 1:

MTB-1: If shrub or tree removal is to take place during the breeding season a pre-construction breeding bird survey shall be conducted within 7 days of these activities.

MTB-2: A no-disturbance buffer shall be established around any active nest or breeding pair territory to limit the impacts of construction activities. The buffer shall not be removed until after the breeding season or until after a qualified wildlife biologist determines that the young have fledged (usually late June to mid-July). The extent of these buffers shall be determined by the biologist (coordinating with USFWS and CDFW) and would depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species but is typically 100 feet.

2.3.5 THREATENED AND ENDANGERED SPECIES

2.3.5.1 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) 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.

2.3.5.2 Affected Environment

Federal Endangered Species

Section 7 consultation was initiated with USFWS on July 24, 2024 after a site visit was conducted in March 2024. After review of the Biological Assessment prepared for the project, USFWS concluded that the project would have A May Effect, Likely to Adversely Affect determination for the federally threatened CAGN and the federal candidate monarch butterfly. A May Effect, Not Likely to Adversely Affect determination was made for the federally endangered least Bell’s vireo. These determinations are detailed in the Biological Opinion received from USFWS on January 8, 2025.

This project is located outside of NOAA Fisheries jurisdiction; therefore, a NOAA Fisheries species list is not required and no effects to NOAA Fisheries species are anticipated.

California Endangered Species Act Consultation Summary

Least Bell’s vireo and the southwestern willow flycatcher are listed as endangered under CESA, which is described in Fish and Game Code sections 2050 through 2100. The Crotch’s bumblebee is a state candidate for listing. No take of state-listed species is anticipated from the project. If project plans change, which may result in potential

effects to state listed species; if state listed species are detected before or during construction; or if additional information on the distribution of listed species becomes available that results in potential effects as a result of construction, Caltrans would initiate a Section 2081 Incidental Take Permit consultation with CDFW.

Several migratory birds were detected during surveys of the BSA. Therefore, measures would be implemented to avoid impacts to birds during the nesting season, which typically occurs between February 15 and September 1.

2.3.5.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would have no impact related to threatened and endangered species.

BUILD ALTERNATIVE

The Biological Opinion, described above, determined that the effects of the proposed project as well as the cumulative effects are not likely to impact the CAGN because:

- Conservation measures proposed as part of the project would avoid the potential for loss of active nests and the injuring or killing of adult and juvenile gnatcatchers during vegetation clearing and construction.
- Habitat supporting up to one gnatcatcher pair would be removed by project construction, which represents less than 0.1 percent of the range wide population of the species.
- The project would permanently impact 7.1 acres of gnatcatcher-occupied habitat out of thousands of acres of gnatcatcher habitat range wide.
- Permanent impacts to 7.1 acres of gnatcatcher habitat would be mitigated by debiting 8 acres of gnatcatcher occupied habitat at the Sage Hill Mitigation Bank which is part of the “gnatcatcher core” identified in the North San Diego County Multiple Species Conservation Program (MSCP) and City of San Marcos’ Multiple Habitat Conservation Program (MHCP) and 0.2 acre of riparian scrub credits at the Rancho San Diego Mitigation Bank which is a core biological resource area in the MSCP and contains large blocks of high value coastal sage scrub that supports approximately 25 pairs of gnatcatchers.

Further, the Biological Opinion determined that the effects of the proposed project as well as the cumulative effects are not likely to impact the monarch butterfly because:

- With the implementation of the CMs, impacts to monarch are expected to be minimized and are not expected to appreciably reduce the numbers, reproduction, or distribution of the monarch in the action area or throughout the species range.

- Permanent impacts to 0.4 acre and temporary impacts to 2.6 acres are small and comprise a small percentage of the monarch's large range and wide distribution.
- Permanent impacts to 0.4 acre of monarch habitat would be mitigated by debiting 0.8 acre of native grassland at the Rancho San Diego Mitigation Bank. Temporary impacts would be restored onsite at a 1:1 ratio.

Due to the lack of suitable habitat and absence of threatened or endangered plant or wildlife species during surveys of the project area, the Build Alternative is anticipated to have no impact on threatened or endangered species.

If project plans change, which may result in potential effects to other federally listed species, if federally listed species are detected before or during construction, or if additional information on the distribution of listed or proposed species becomes available that results in potential effects as a result of construction, Caltrans would initiate additional Section 7 consultation with USFWS.

2.3.5.4 Avoidance, Minimization, and/or Mitigation Measures

Avoidance, minimization, and/or mitigation measures are not required for the Build Alternative.

The measures described below would be undertaken by Caltrans. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

The prohibitions against taking the monarch butterfly do not apply until the species is listed.

TE-1: Coastal California Gnatcatcher

The take of gnatcatchers is based on the number of adult gnatcatcher pairs observed on site and the amount of gnatcatcher habitat impacted. If the take is exceeded, it would trigger reinitiation of consultation. Incidental take (IT) of gnatcatcher is exempted as follows:

One pair of gnatcatchers in the form of harm, as defined in 50 CFR § 17.3, due to the direct loss of 7.1 acres of their primary breeding, feeding, and sheltering habitat (i.e., coastal sage scrub and riparian scrub) at the project site. The amount or extent of incidental take would be exceeded if more than 7.1 acres of coastal sage scrub (7 acres) and riparian scrub (0.1 acre) are impacted or if more than one gnatcatcher pairs are observed within the impact area prior to vegetation clearing and project construction.

TE-2: Monarch Butterfly

The number of monarchs of different life history stages would be very difficult to estimate since the number of eggs and/or caterpillars could vary from a few individuals to hundreds. Therefore, the amount of valley and foothill grassland is used as a surrogate for the number of individuals since this habitat supports essential breeding, feeding, and sheltering behaviors for monarchs. If the take is exceeded, it would trigger reinitiation of consultation pursuant to the implementing regulations of section 7(a)(2) of the Act (50 CFR § 402.16). Incidental take of monarch is exempted as follows:

Monarchs of all life history stages (i.e., eggs, larvae, caterpillars, pupae, and adults) in the form of harm, death, or injury due to the direct loss of 0.4 acre of their primary breeding, feeding, and sheltering habitat (i.e., valley and foothill grassland) at the project site. The amount or extent of incidental take would be exceeded if more than 0.4 acre of valley and foothill grassland are impacted during vegetation clearing and project construction.

2.3.6 INVASIVE SPECIES

2.3.6.1 Regulatory Setting

Executive Order (E.O.) 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 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.

Under E.O. 13112, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

2.3.6.2 Affected Environment

Invasive species were identified during the surveys of the BSA, including species that were on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the Cal-IPC Invasive Plant Inventory Database (<http://www.cal-ipc.org/paf/>). Red brome (*Bromus madritensis*) and salt cedar (*Tamarix ramosissima*) have a high rating and wild oat (*Avena barbata* and *Avena fatua*), black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pynoccephalus*), tocalote (*Centaurea melitensis*), ryegrass (*Festuca perennis*), sweet fennel (*Foeniculum vulgare*), summer mustard (*Hirschfeldia incana*), Mediterranean barley (*Hordeum marinum*), tree tobacco (*Nicotiana glauca*), fountaingrass (*Pennisetum*

setaceum), and Mexican fan palm (*Washingtonia robusta*) have a moderate rating on the California Invasive Plant Inventory Database.

2.3.6.3 Environmental Consequences

NO BUILD ALTERNATIVE

The No Build Alternative would have no impact related to invasive species.

BUILD ALTERNATIVE

Construction of the Build Alternative has the potential to contribute to the spread of invasive species, including those with high and moderate potential for ecological impact, if appropriate measures are not implemented. Therefore, the avoidance and minimization measures below would be implemented by the proposed project to reduce potential for adverse effects.

2.3.6.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would be implemented to reduce potential adverse effects from the spread of invasive species:

INV-1: Special care would be taken during transport, use, and disposal of soils containing invasive weed seeds, and all weedy vegetation removed during construction would be properly disposed of to prevent spread into areas outside of the construction area.

INV-2: Erosion control measures for this project shall be designed to prevent the spread of invasive plant species.

INV-3: Landscaping designs for this project shall not contain invasive species in the plant selections or seed mixtures.

Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance Under CEQA

The proposed Project is a joint project by Caltrans and FHWA and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with 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, would 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 judgement 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, requires 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 significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list several “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 to a particular resource. A NO IMPACT answer in the last column of the table 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.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations in this checklist are summaries of information contained in Chapter 2 to

provide you with the rationale for significance determinations; for 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

Except as provided in Public Resources Code Section 21099, would the project:

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less Than Significant with Mitigation Incorporated
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?	Less Than Significant with Mitigation Incorporated
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less Than Significant Impact

The information in this section is based on the Visual Impact Assessment (VIA) prepared for the proposed project by Caltrans in February 2025.

CEQA Significance Determinations for Aesthetics

a) No Impact

There are no scenic vistas in the project area.

The term *vista* generally implies an expansive view, usually from an elevated point or open area. A *scenic vista* is a view that possesses visual and aesthetic qualities of high value to the community and provides views of natural features or significant structures and buildings from an elevated point or open area. Neither the City of San Marcos, nor the City of Escondido designate specific scenic vistas within their respective general plans. A discussion of scenic resources within each city is provided in b) and c) below. Therefore, the proposed project would have no impact on scenic vistas.

b and c) Less than Significant Impact With Mitigation Incorporated

As described in Section 2.1.9, Visual/Aesthetics, the project setting has varied landforms, while surrounding land uses include a variety of residential, industrial commercial and open space. A project is generally considered to have a

visual/aesthetic impact if it substantially changes the character of a project site such that it becomes visually incompatible or visually unexpected when viewed in the context of its surroundings. Such changes would degrade the existing visual character or quality of the site and its surroundings.

The project is primarily located with Caltrans' ROW along the I-15 and SR 78 corridor. The nearest designated State Scenic Highway is SR 52 (SD 52 PM 9.5/SD 52 PM 13) which is located 20 miles south of the project site.¹³

The City of San Marcos General Plan Conservation and Open Space Element (2012) notes that views along the SR 78 corridor include views of prominent landforms, such as the Merrian Mountains, Mount Whitney, and Double Peak, with views of these landforms from Twin Oaks Valley Road particularly notable. The City of San Marcos is committed to maintaining and protecting scenic resources and the natural topography to preserve the natural beauty of the city.

The City of Escondido's General Plan Resource Conservation Element (2012) notes that the mountains and hillsides that surround the city are prominent visual resources within the City. Further, the I-15 corridor is considered a scenic corridor, (defined as the area within 1,750 feet of the freeway).

Overall, the proposed freeway structures and signage are similar in height, bulk, and architectural projections as the existing freeway facility. The project would somewhat alter the existing landform in the area. However, most of the existing landform is characterized by manufactured or cut slopes from previous freeway projects. Where feasible, all grading would closely imitate the existing landforms, and the proposed grades would not result in contours that are much different than the existing landform that currently exists in the freeway corridor. The project area is mostly suburban and urban.

The proposed connector ramp is similar in height to the existing I-15 connector ramp. It is in a freeway interchange and would not affect the local neighborhood character of the surrounding cities. The proposed project features do not change the project's visual character to the extent that it would be visually incompatible or visually unexpected when viewed in the context of the existing freeway corridor. However, the project would expand the current urbanized effect of the I-15/SR 78 corridor caused primarily by project elements such as additional highway lanes and noise barriers. Measures AES-1 through AES-47 would reduce the urbanizing effect of the project by incorporating design features and elements that would be visually compatible with surroundings and add visual interest to the project area such as block patterns and curved layouts to soundwalls, architectural features and textures on retaining walls and barriers, buffer plantings, consistent color treatment of concrete features, and landscaping consistent with the appearance of the adjacent community.

¹³ Source:

<https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>
[a](#)

Additionally, the proposed project features would not block public views of visual landmarks, scenic resources, or public view corridors listed in the adopted community plan or the General Plan. The project is not in a Local Coastal Program.

Avoidance, minimization, and mitigation measures (AES-1 through AES-47) would be implemented to ensure the project does not degrade the visual character of the site and its surroundings. Measures AES-1 through AES-47 incorporate specific design elements and features to ensure visual compatibility with the site which will ensure the visual character is not degraded by additional freeway elements. The proposed project would be visually compatible with the existing land uses in the area and would not conflict with zoning or other regulation governing scenic quality. Therefore, the impact would be less than significant with mitigation incorporated.

d) Less than Significant Impact

The existing visual character is largely defined by the freeway lanes, overhead ramp structures, concrete barriers, signage, and lighting. Mature trees soften the edges of the viewshed.

Freeway appurtenances such as lighting and directional signage would be augmented by video cameras, changeable message signs, congestion pricing signs, overhead sensors, and related electronic equipment. The proposed vertical and overhead elements would add to the visual clutter in sky views and increase the urban character of the corridor. Additionally, the proposed project lighting would be shielded and directed toward the path of travel. The project would not adversely modify the existing nighttime views or emit a significant amount of additional light or glare. Thus, the proposed project would have a less than significant impact on light or glare.

3.2.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department 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, Forest Legacy Assessment Project, and the forest carbon measurement methodology provided in Forest Protocols adopted by CARB. Would the project:

Question	CEQA Determination
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
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))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
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?	No Impact

CEQA Significance Determinations for Agriculture and Forestry Resources

a, b, c, d, e) No Impact

The proposed project would not result in impacts to agricultural or forest resources because none exist in the project footprint.

3.2.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact
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?	Less Than Significant with Mitigation Incorporated
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact

The information in this section is based on the AQR prepared for the proposed project by Caltrans in January 2024. Section 2.2.6 (Air Quality) in this document includes more information.

CEQA Significance Determinations for Air Quality

a) Less Than Significant Impact

The proposed project is listed in SANDAG's 2023 financially constrained 2023 RTIP, Amendment No. 06 (MPO ID: CAL277), 2025 RTIP, and 2021 Regional Plan (Project ID: CC073). SANDAG found that regionally significant projects in the San Diego area conform to the purpose of the State Implementation Plan (SIP) and not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS as provided in Section 176(c) of the FCAA. The fiscally constrained 2023 RTIP and 2021 Regional Plan were determined to conform by FHWA and FTA on January 28, 2022. The 2025 RTIP was determined to conform by FHWA and FTA on December 16, 2024.

The design concept and scope of the proposed project is consistent with the project description of MPO ID CAL277 and Project ID CC037 in the 2021 RTP, 2023 RTIP, 2025 RTIP, and the "open to traffic" assumptions of SANDAG's regional emissions analysis. Therefore, the project would not interfere with the timely implementation of any Transportation Control Measures identified in the SIP. To comply with state law, SDAPCD must prepare an updated State Ozone Attainment Plan ("Regional Air Quality Strategy" or RAQS) to identify possible new actions to further reduce emissions. The proposed project does not conflict with the SDAPCD RAQS. In addition, implementation of the Build Alternative would result in criteria air pollutant emissions that would be

lower than existing conditions (Table 2-19). Thus, the proposed project would not conflict with the applicable air quality plans for the region. Therefore, impacts would be less than significant.

b) Less than Significant Impact with Mitigation Incorporated

The proposed project site is located in proximity to the cities of Escondido and San Marcos in San Diego County, in the SDAB, under the jurisdiction of SDAPCD.

Construction

Because Caltrans has not established significance thresholds for criteria air pollutant emissions for CEQA purposes, emissions were compared to SDAPCD's Air Quality Impact Analysis Trigger Levels (Rule 20.2) for informational purposes. Although these trigger levels do not generally apply to general development or transportation projects, these levels may be used to evaluate the increased emissions from projects and to demonstrate that a project's emissions would not result in a significant impact to regional air quality and impede attainment of air quality standards for the region. Because regional air quality standards have been established for these criteria pollutants to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution, these trigger levels can also be used to assess project emissions and inform the project's impacts to regional air quality and health risks. As shown in Table 3-1, construction-related emissions would not exceed the SDAPCD screening levels. Therefore, the proposed project would not 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.

Table 3-1: Proposed Project Construction-Related Emissions

Phase	PM ₁₀	PM _{2.5}	CO	NO _x	ROG
	pounds per day				
Maximum Daily Emissions	12.13	10.03	140.05	128.56	18.82
SDAPCD Screening Threshold	100	67	550	250	N/A

Furthermore, as noted in Section 2.2.6, **AMMs AQ-1 through AQ-3** are feasible short-term (construction) measures that would be implemented to eliminate or substantially reduce proposed project impacts. Thus, impacts are considered to be less than significant with mitigation incorporated.

Operation

Because the proposed project would provide critical improvements in the regional multi-modal transportation system by accommodating the use of carpools, cyclists, pedestrians, and high-frequency rapid transit (e.g., commuter express and bus rapid transit) in the project corridor and facilitating connections between planned (e.g., SR 78

Managed Lanes) and existing (e.g., I-15 Managed Lanes) multi-modal facilities, no additional operational minimization measures are recommended for long-term (operations). Implementation of the Build Alternative would result in criteria air pollutant emissions that would be lower than existing conditions (Table 2-19). Therefore, the operational impact of the proposed project is considered to be less than significant.

c) Less than Significant Impact

San Diego County describes sensitive receptors to include schools, residences, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality (San Diego County 2007). As summarized in CARB's Air Quality and Land Use Handbook: A Community Health Perspective, the zone of greatest concern near roadways is within 500 feet (or 150 meters) (CARB 2005). As such, sensitive receptors within 500 feet (or 150 meters) have been identified and are documented in Section 2.2.6 (Air Quality). Standard measures to minimize construction-related air quality effects, including diesel particulate matter, are included in Section 2.2.6 (Air Quality).

As shown in Tables 2-19 and 2-20, when compared to the No Build Alternative, the Build Alternative would result in a net decrease of all criteria pollutants and MSATs compared to existing conditions; therefore, sensitive receptors would not be exposed to substantial pollutant concentrations. Furthermore, the proposed project would provide critical improvements in the regional multi-modal transportation system by accommodating the use of carpools, cyclists, pedestrians, and high-frequency rapid transit (e.g., commuter express and bus rapid transit) in the project corridor and facilitating connections between planned (e.g., SR 78 Managed Lanes) and existing (e.g., I-15 Managed Lanes) multi-modal facilities, which would incentivize modes that have lower per-capita emissions and minimize vehicle emissions. Therefore, this impact is considered to be less than significant.

d) Less Than Significant Impact

Construction activities associated with the proposed project could result in short-term odor emissions from diesel exhaust associated with construction equipment. Due to the highly diffusive properties of diesel exhaust, nearby receptors would not be affected by diesel exhaust odors associated with project construction and implementation of the standard measures in Section 2.2.6 (Air Quality) would also reduce project-related odors. New odor sources would not be added once the project is operational. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people. This impact would be less than significant.

3.2.4 BIOLOGICAL RESOURCES

Would the project:

Question	CEQA Determination
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 CDFW, USFWS, or NOAA Fisheries?	Less Than Significant with Mitigation Incorporated
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 CDFW or USFWS?	Less Than Significant with Mitigation Incorporated
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?	Less Than Significant with Mitigation Incorporated
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?	Less Than Significant with Mitigation Incorporated
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less Than Significant Impact
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?	No Impact

The information in this section is based on the NES prepared for the proposed project by Caltrans in December 2024. Section 2.3 (Biological Environment) of this document includes more information.

CEQA Significance Determinations for Biological Resources

a, b, c) Less than Significant Impact with Mitigation Incorporated

There is approximately 57 acres of natural communities of special concern in the BSA consisting of 6.5 acres of southern riparian woodland, 5.5 acres of southern riparian scrub, 8.0 acres of VFG, 17.6 acres of nonnative grassland, and 19.4 acres of coastal sage scrub.

Approximately 7 acres of CSS would be permanently impacted, much of which is disturbed. CSS occurs on a slope along the eastern end of the proposed project while disturbed CSS occurs throughout the middle of that area. The proposed project would

impact much of the CSS habitat. There is approximately 1 acre of CSS and 6 acres of disturbed CSS in the BSA that would be permanently impacted.

There is approximately 8.0 acres of VFG habitat on a slope above eastbound SR 78 just west of the Barham Drive/Woodland Parkway off-ramp. The SR 78 widening west of Barham Drive would also permanently impact 0.4 acres of VFG.

The proposed project would result in 0.1 acres of impacts of southern riparian scrub to the tributary of the San Marcos Creek.

Two listed animal species were identified in the USFWS species list that may occur in the proposed project location, or may be affected by the proposed project, the federally threatened CAGN (*Polioptila californica californica*) and the federally endangered least Bell's vireo (*Vireo bellii pusillus*). Least Bell's vireo have been detected in the riparian woodland of the San Marcos Creek occurring adjacent to the project footprint. However, this habitat would be avoided. No designated critical habitat for either species occurred within the BSA. Narrow leaf milkweed, which is a host plant for the federal candidate monarch butterfly (*Danaus plexippus*), was identified in the valley and foothill grassland habitat within the project footprint.

This project is located outside of NOAA Fisheries jurisdiction; therefore, a NOAA Fisheries species list is not required, and no effects to NOAA Fisheries species are anticipated.

The proposed project would incorporate AMMs **CSS-1 through CSS-6, VFG-1 through VFG-7, SRS-1 through SRS-6, CAGN-1 through CAGN-6**. Therefore, impacts are considered to be less than significant with mitigation incorporated.

d) Less than Significant Impact with Mitigation Incorporated

Several migratory birds were detected during surveys of the BSA. Due to the presence of Migratory Birds, the implementation of avoidance and minimization measures **MTB-1 and MTB-2** would be implemented to avoid impacts to birds during the nesting season, which typically occurs between February 15 and September 1. Therefore, impacts are considered to be less than significant with mitigation incorporated.

e) Less than Significant Impact

Minor vegetation removal would occur under the proposed project due to the removal of landscaped medians, and for construction of on/off-ramps improvements. Caltrans would work with local jurisdictions for replanting and revegetation within city right-of-way. Tree removals in the Caltrans ROW that may be required for on-/off-ramp improvements, would not be subject to any existing tree preservation policy or ordinance. Therefore, compliance, as feasible, with the City of San Marcos' and the City of Escondido's tree protection policies would ensure the proposed project would not conflict with any tree preservation policy or ordinance. Impacts would be less than significant.

f) No Impact

There are no conservation/management plans enacted for areas near the project site. San Diego County in cooperation with wildlife agencies, property owners, developers, and environmental groups developed a Multiple Species Conservation Program (Biodiverse SD) to protect a total of 85 species in the San Diego area (San Diego County 1998). Biodiverse SD does not encompass the project area; thus, no impact due to conflict with this program would occur. The Build Alternative would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan and therefore there would be no impact.

3.2.5 CULTURAL RESOURCES

Would the project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	Less Than Significant with Mitigation Incorporated
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Less Than Significant with Mitigation Incorporated
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Less Than Significant with Mitigation Incorporated

The information in this section is based on the Historic Property Survey Report (HPSR) (AECOM 2024), the Archaeological Survey Report (ASR) (AECOM 2024), and the Extended Phase I Report (XPI) (AECOM 2024). See Section 2.1.10 (Cultural Resources) for additional information.

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. The APE established for the proposed project encompasses all areas in which the Project has potential to directly or indirectly alter the character or use of historic properties and includes the limits of disturbance of permanent and temporary project construction activities. The archaeological APE includes the entire ROW between postmile 12.6 to postmile 16.7 on SR 78 and from postmile 30.6 to postmile 32 on I-15.

CEQA Significance Determinations for Cultural Resources

a, b, c) Less than Significant Impact with Mitigation Incorporated

The results of the HPSR (AECOM 2024) indicate that one cultural resource (P-37-012096) is identified within the APE and is recommended as eligible for listing on the NRHP or CRHR for the purposes of this project. The resource would be protected by the establishment of an ESA to prevent any inadvertent impacts during construction and would not be affected by the project. Therefore, the proposed project achieves a finding of No Historic Properties Affected with implementation of nonstandard conditions. In addition, the ASR (AECOM 2024) and XPI investigation (AECOM 2024) determined that the project does not exhibit archaeological sensitivity and the potential to encounter intact archaeological deposits is low.

However, there is a potential for previously unknown cultural and historical resources to be discovered during construction of the proposed project. The proposed project would

implement the avoidance and minimization measures detailed in Section 2.2.10 – Cultural Resources (CR-1 through CR-6) to avoid or minimize potential impacts on these resources. These AMMs would include the establishment of ESAs, an archaeological and Native American monitoring program, controlled grading within the archaeological monitoring area (AMA), and Cultural Resources Sensitivity Training, and would ensure compliance to California Health and Safety Code (H&SC) Section 7050.5 in the occurrence of human remains being discovered during construction. Therefore, impacts are considered to be less than significant.

3.2.6 ENERGY

Would the project:

Question	CEQA Determination
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less Than Significant Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less Than Significant Impact

CEQA Significance Determinations for Energy

a) Less than Significant Impact

The purpose of the project is to provide reliable and sustainable transportation options, reduce travel times, improve mobility and access to jobs, housing, and services within North County communities near the project, as envisioned in the 2021 Regional Plan. To accomplish the purpose, the project incentivizes modes that have lower per capita emissions than SOVs, minimize VHT by reducing the number of vehicles and time spent traveling, and complete a key element of the region's planned managed lanes system. The Build Alternative would result in direct but temporary fuel usage during construction (short-term) as well as the direct operational fuel consumption (i.e., vehicles using the facility; long-term).

Long-term Energy Consumption (Operations)

As described in Section 2.2.8 of this EIR/EA, although the Build Alternative in 2050 would result in higher daily vehicle miles traveled than existing conditions (2020), which can be attributed to expected population growth and increased employment in the region, gasoline and diesel fuel consumption would still be anticipated to decrease. The decrease in fuel consumption can be attributed to improvements to the overall movement of people and goods between I-15 and SR 78, improvements in mobility and trip reliability, facilitation of other modes of transportation, including bus rapid transit, cycling, walking, reductions in vehicle weaving and cut through traffic, as well as improvements to vehicle fuel efficiency standards due to regulatory requirements. Therefore, the Build Alternative would reduce energy consumption and would not result in the wasteful, inefficient, or unnecessary consumption of energy.

Short-term Energy Consumption (Construction)

Project construction would be a temporary commitment of energy, necessary for any infrastructure improvement project. Construction of the Build Alternative would primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. As described in Section 2.2.8 of this EIR/EA, construction of the Build Alternative would require 773,567 gallons of diesel and

190,032 gallons of gasoline, as well as 232,621 kilowatt-hours of electricity. The energy expenditure required for construction of the Build Alternative would be necessary to achieve the direct energy benefits discussed above. While indirect energy would be consumed during construction, best management practices and regulatory requirements would be implemented to conserve energy and reduce diesel fuel consumption (refer to Section 2.2.6, Air Quality). Moreover, while construction would require a temporary increase in energy consumption, the Build Alternative would allow for a long-term reduction in energy consumption due to the reduction in VMT as well as operational improvements compared to the No Build Alternative. Therefore, construction of the Build Alternative would not result in an inefficient, wasteful, and unnecessary consumption of energy. This impact would be less than significant.

b) Less than Significant Impact

The proposed connector is listed as the top priority among HOV Connector projects in the SANDAG 2050 RTP. The proposed project is also included in the SANDAG's North County CMCP (2023). The purpose of the project is to provide reliable and sustainable transportation options, reduce travel times, improve mobility and access to jobs, housing, and services within North County communities near the project, as envisioned in the 2021 Regional Plan. To accomplish the purpose, the project incentivizes modes that have lower per capita emissions, and thereby lower energy consumption (combustion of fossil fuels results in energy expenditure and emissions), than SOVs, minimize VHT by reducing the number of vehicles and time spent traveling, and complete a key element of the region's planned managed lanes system. As described above, since the Build Alternative would result in a decrease in fuel consumption compared to existing and No Build Alternative due to the operational improvements that would increase sustainable transportation options (e.g., transit, cycling, walking) as well as improve operations to accommodate HOVs, clean air vehicles, improve interchange operations to reduce vehicle weaving and cut through traffic, the Build Alternative would not conflict with or obstruct with the goals of the 2050 RTP or CMCP. This impact would be less than significant.

3.2.7 GEOLOGY AND SOILS

Would the project:

Question	CEQA Determination
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.	Less Than Significant Impact
ii) Strong seismic ground shaking?	Less Than Significant Impact
iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
iv) Landslides?	Less Than Significant Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact
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?	Less Than Significant Impact
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?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less Than Significant with Mitigation Incorporated

CEQA Significance Determinations for Geology and Soils

a, b, c) Less Than Significant Impact

The Project site is not located in an Alquist-Priolo Fault Special Studies Zone, nor is it within or adjacent to any unzoned fault. Thus, fault rupture potential is remote, and the potential for liquefaction and earthquake-induced landslide is low. Project construction activities would be temporary and after implementation, there would be no change from

current geological conditions. As with all of southern California, ground-shaking hazards may occur due to earthquake events in the region, but the Project would be constructed in accordance with the bridge design specifications outlined in Caltrans' Bridge Design Practice Manual to ensure safety when considering maximum demands or force effects due to various loads during its design life. The proposed project would also be constructed to meet Caltrans Seismic Design Criteria and implement the recommendations of site-specific Geotechnical Reports to address any soil, seismic, or geological issues. Erosion effects would be managed during construction in compliance with the Construction General Permit. Therefore, impacts would be less than significant.

d, e) No Impact

Certain types of clay soils expand when they are saturated and shrink when dried. These are called expansive soils and can pose a threat to the integrity of structures built on them without proper engineering. As mentioned above, the proposed project would be constructed to meet Caltrans Seismic Design Criteria and implement the recommendations of site-specific Geotechnical Reports to address any soil, seismic, or geological issues. As a linear transportation project, the proposed project would not require disposal of any wastewater once constructed. For the same reason, the capability of soils to support septic tanks or alternative wastewater disposal systems and expansive soils are not concerns. There would be no impact.

f) Less than Significant Impact With Mitigation Incorporated

As noted previously in Section 2.2.4 (Paleontology), a Paleontological Identification Report (PIR) and Paleontological Evaluation Report (PER) prepared for the proposed project indicated that portions of the project limits are located within sensitive geologic units/formation for buried paleontological resources (old alluvial flood plain deposits).

The proposed project would implement the avoidance and minimization measures detailed in Section 2.2.4 (Paleontology) (PALEO-1 through PALEO-7) to avoid or minimize potential impacts on these resources. In addition to measures PALEO-1 through PALEO-7, areas where paleontological mitigation is required must be called out in the Project's plans. These areas would be designated as the Paleontological Monitoring Areas (PMAs). Therefore, impacts are considered to be less than significant with mitigation incorporated.

3.2.8 GREENHOUSE GAS EMISSIONS

Would the project:

Question	CEQA Determination
a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?	Less Than Significant Impact

The information in this section is based on the Air Quality Report (AQR) prepared for the proposed project by Caltrans in January 2024. Additionally, see Section 2.2.6 (Air Quality) for additional information.

a, b) Less Than Significant Impact

As shown in Table 2-21, compared to the Existing/Baseline condition (2020), GHG emissions for the Build Alternative is anticipated to result in substantially lower GHG emissions. This can be attributed to improvements in vehicle technology and reformulation of fuels, and fleet turnover over time. The Build Alternative would also result in a decrease in annual GHG emissions compared to the No Build Alternative due to the decrease in annual VMT. The proposed project would also implement measures to reduce construction emissions, such as maintenance of construction equipment and vehicles, limiting of construction vehicle idling time, and scheduling and routing of construction traffic, as outlined in Section 2.2.6.

Since the proposed project would provide critical improvements in the regional multi-modal transportation system by accommodating the use of carpools, cyclists, pedestrians, and high-frequency rapid transit (e.g., commuter express, bus rapid transit) within the project corridor and facilitating connections between planned (e.g., SR 78 Managed Lanes) and existing (e.g., I-15 Managed Lanes) multi-modal facilities, the proposed project would reduce GHG emissions in the region and support the implementation of local GHG reduction plans. Therefore, impacts are considered to be less than significant.

3.2.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

Question	CEQA Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
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?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less Than Significant Impact
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?	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two nautical 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?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less Than Significant Impact

CEQA Significance Determinations for Hazards and Hazardous Materials

The information in this section is based on the Aerially Deposited Lead Survey Report (June 2019), the Initial Site Assessment (December 2020), and the Environmental Site Investigation Report (January 2023). Additionally, see Section 2.2.5 (Hazardous Waste/Materials) for additional information.

a, b, c) Less Than Significant Impact

The scope of the ISA included a review of reasonably ascertainable environmental regulatory agency databases to identify known or suspected environmental concerns or Recognized Environmental Conditions (RECs) that may be associated with the project. A search of readily available environmental records was obtained from Environmental Data Resources, Inc. (EDR). The purpose of the regulatory database report was to

evaluate to the extent possible whether activities, processes, operation, or actions in the project corridor, adjoining properties, and nearby locations have to the potential to adversely impact the environmental condition of the project area, are suspected sources of environmental concern, or are present RECs for the site. Available historical information was reviewed to ascertain the historical uses of the project corridor and the adjoining properties. Review references were primarily Sanborn insurance maps, historic aerial photographs, topographic maps, building department records, and oil exploration maps. Online records maintained by California state agencies for all addresses and parcels associated with the project area were reviewed.

The Phase I Site Assessment found that 29 parcels that are proposed to be affected by the Project as TCEs, permanent easements, partial or full acquisitions would require a Phase II Investigation. In addition to the hazardous waste conditions identified at the affected parcels, environmental concerns such as Aerially Deposited Lead (ADL), ACM, LBP, groundwater contamination, electrical transformers, treated wood waste and impacted soils were identified and require testing.

Environmental soil sampling was performed at the Project site for ADL, as well as other potential constituents of concern based on historic site use (interstate freeway). The sampling and data collection evaluated lead concentrations for worker safety consideration and to classify soil according to the State of California Department of Toxic Substances Control (DTSC) *Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils* (Agreement) with Caltrans (DTSC, 2016), to ensure compliance for the Project. One gas station with underground storage tanks (USTs) was considered for additional analytical sampling due to the potential release of contaminants from the USTs to the subsurface. Additional analyses were also included for soil samples collected based on the proximity of the SPRINTER rail line near the project.

Soil classified as Clean Soil can be reused on site without restriction. Soil that may be required to be imported from off-site sources or other areas of the Project, classified as Clean or Commercial, may be used as backfill, if needed. Imported soil must meet Caltrans Standard Special Provision (SPP) 6-1.03 requirements and must not contain concentrations of constituents that exceed regulated soil requirements.

Testing of soils and groundwater for metals (e.g., arsenic, lead, etc.), petroleum hydrocarbons, pesticides, polycyclic aromatic hydrocarbons, did not exceed screening criteria for DTSC-SLs for commercial/industrial soils, or USEPA RSLs for industrial soil, or hazardous waste criteria. These soils may be reused as needed for the Project as long as the requirements from SDRWQCB Order R9-2019-005 are met. Should this material be exported to a different site or project, then additional testing may need to be performed at the request of the receiver. Additionally, should these soils be disposed at a landfill, additional testing may be required by the receiving facility.

Groundwater concentrations are not indicative of a hazardous waste, but additional testing may be needed if dewatering is to occur for disposal is required or if SDRWQCB

Order No. R9-2015-0013 and/or the National Pollutant Discharge Elimination Systems (NPDES) No. CAG919003 would be involved.

Further, based on the results of the samples of both soil and groundwater, there does not appear to be substantial contamination on the properties that are slated for acquisition or partial acquisition.

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 ROW within the limits of the project alternatives. 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 with the project limits as long as all requirements of the ADL Agreement are met.

Lastly, there are various schools within one-quarter of a mile (2,600 feet) from the proposed project site.

- San Marcos Middle School (650 W Mission Rd, San Marcos, CA 92069)
- San Marcos Elementary School (1 Tiger Way, San Marcos, CA 92069)
- Cal State San Marcos (200 E Barham Dr, San Marcos, CA 92096)
- Mission Hills High School 1 Mission Hills Ct, San Marcos, CA 92069
- Baypoint Preparatory Academy (520 E Carmel St, San Marcos, CA 92078)
- Knobb Hill Elementary (1825 Knob Hill Rd, San Marcos, CA 92069)
- Community Montessori/Element Education (1441 Montiel Rd, Suite 143, Escondido, CA 92026)
- Rock Springs Elementary School (1155 Deodar Rd, Escondido, CA 92026)
- Escondido Adventist Academy (1301 Deodar Rd, Escondido, CA 92026)

Although the project would occur within 0.25-mile of various schools in the area, all potentially hazardous materials would be tested, handled, and disposed of in accordance with Caltrans Standard Specifications and SSPs (or equivalent local provisions), as applicable. During operation, routine transport, use, or disposal of hazardous materials is not anticipated, nor are upset and accident conditions involving release of hazardous materials. **AMMs HW-1 through HW-5** would be implemented to minimize potentially hazardous waste impacts that may be uncovered during construction of the project and the impact would be less than significant.

d) No Impact

The City of Escondido consists of one hazardous site listed on the Cortese List (CalEPA 2023). This site is the Chatham Brothers Barrel Yard located on 2257 Bernardo Ave, Escondido, CA 92029, approximately 2.0 miles south of the project site. The City of Escondido does not have a hazardous site listed on the Cortese List. There would be no impact.

e) No Impact

The proposed project is not within an airport land use. The nearest public use airport to the proposed project area is the McClellan-Palomar Airport in Carlsbad (2198 Palomar Airport Rd, Carlsbad, CA 92008), approximately 4.66 miles west. The project also does not include residences, or occupied land uses that could be affected by airport activities. There would be no impact.

f, g) Less Than Significant Impact

The proposed project is not located within or adjacent to lands classified by the California Department of Forestry and Fire Protection (CAL FIRE) as a Very High Fire Hazard Severity Zone (VHFHSZ) (CAL FIRE 2023). The nearest VHFHSZ is south of the Country Club Dr and Auto Park Way intersection, approximately 2,000 feet from the project site. However, the distance is buffered between two major roads, with the proposed project implementing Specifications 7-1.02M(2) (Fire Protection) as part of the project design. This specification includes a fire response plan.

Operationally, the project would improve emergency access. Temporary construction impacts could have the potential to impact emergency access during construction. However, the proposed project would implement a TMP to ensure emergency vehicle access for fire responders is maintained throughout construction. Therefore, impacts are considered to be less than significant.

3.2.10 HYDROLOGY AND WATER QUALITY

Would the project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No Impact
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:	Less Than Significant Impact
(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;	Less Than Significant Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Less Than Significant Impact
(iv) impede or redirect flood flows?	Less Than Significant Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Less Than Significant Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

This section describes the regulatory setting associated with hydrology and water quality, the affected environment, the environmental consequences on hydrology and water quality that would result from the project, and the minimization and/or mitigation measures that would reduce any potential impact. Additionally, the information in this section is based on the Stormwater Date Report (SWDR), prepared for the proposed project by Caltrans in October 2024. See sections 2.2.1 (Hydrology and Floodplain) and 2.2.2 (Water Quality and Stormwater Runoff) for additional information.

CEQA Significance Determinations for Hydrology and Water Quality

a, c - d) Less than Significant Impact

As outlined in Section 2.2.1 Hydrology and Floodplain, the proposed project is not expected to cause floodplain encroachment. The improvements proposed just east of San Marcos Blvd to Twin Oaks Valley Rd are within a FEMA defined Floodway and Floodplain for the Creek. The proposed improvements encroach upon the Floodway for approximately 175 feet and encroach upon the Floodplain for approximately 2,600 feet.

The widening through the FEMA defined Floodway and Floodplain is achieved by sliver fills and sliver cuts on the existing outside hinge of the eastbound (EB) SR 78 from just east of San Marcos Blvd on-ramp to EB SR 78 to just east of the Twin Oaks Valley Rd overcrossing. As the SR 78 freeway itself is defined as a portion of the Floodway and Floodplain, by widening the freeway, this effectively widens the cross sectional area available to the Floodway and Floodplain. As the cross sectional area of the existing Floodway and Floodplain is effectively enlarged, the proposed improvements are not a significant encroachment.

During construction, no temporary impacts to hydrology and floodplains are anticipated. Except for the western end of the project, the project area is not within a designated floodplain. The western end is within Zone AE due to the proximity of San Marcos Creek, which runs parallel to SR 78 to Knoll Road. However, work in this area would be limited to the eastbound lanes. With the inclusion of the measures described below, temporary impacts to hydrology and floodplains are not expected. As described above in section 2.2.2, the proposed project would disturb approximately 69.43 acres of soil, so a Storm Water Pollution Prevention Plan (SWPPP) would be prepared by the contractor and approved by the Caltrans Resident Engineer before construction begins.

The majority of impervious surfaces proposed by the project would replace existing impervious surfaces, such as paved roadways. However, the project would result in a net increase in impervious surface area—approximately 7.24 acres of new local impervious surface and 44.20 acres of new Caltrans impervious surface—leading to an increase in stormwater runoff due to the addition of Express Lanes. The increase in runoff would be minimal compared to the existing impervious surfaces in the highly developed project area. Additionally, temporary construction site Best Management Practices (BMPs) would be employed to prevent construction materials from entering receiving water bodies.

As noted previously, within the project limits, San Marcos Creek is a FEMA designated Floodway and Floodplain. However, the proposed project would manage storage of equipment, materials, and supplies during construction in compliance with the SWPPP to reduce potential for pollutant release in the event of a flood. Once operational, the proposed project would not include storage or use of hazardous materials that could increase the risk of pollutant release from flooding.

Maintenance BMPs be integrated into the design and construction phases to minimize potential hydrology and water quality impacts. Therefore, the proposed project is anticipated to have a less than significant impact on hydrology and water quality.

b) No Impact

As described in Section 2.2.2 Water Quality and Stormwater Runoff, the City of San Marcos is underlain by a small ground water basin, but this basin is not considered to be a major water source for the City. Further, there are minimal groundwater sources within the City of Escondido. The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. There would be no impact.

e) No Impact

The proposed project is anticipated to encounter groundwater during construction. Should groundwater be encountered, disposal of groundwater would occur in accordance with RWQCB Order No. R9-2015-0013, General Waste Discharge Requirements for Groundwater Extraction Discharges to Surface Waters Within the San Diego Region, which sets specific effluent limitations for discharges to the San Diego Bay and would minimize water quality impacts from groundwater disposal. The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact.

3.2.11 LAND USE AND PLANNING

Would the project:

Question	CEQA Determination
a) Physically divide an established community?	No Impact
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?	No Impact

The information in this section is based upon information presented in Sections 2.1.1 (Existing and Future Land Use) and Section 2.1.2 (Consistency with State, Regional, and Local Plans). See these sections for additional information.

CEQA Significance Determinations for Land Use and Planning

a, b) No Impact

The proposed project would not change any existing community boundaries or physically divide an established community. The proposed project would not result in new zoning or land use classifications that could open new areas for development or otherwise divide an existing community. The proposed project would extend three miles of existing managed lanes in both directions of SR 78 from Valley Parkway and Rock Spring Road (PM R30.6 – R32.0) and Las Posas Road and Rock Springs Road (PM 11.0 – R 16.7). Additionally, the proposed project would provide managed lanes to direct connectors between I-15 in the northbound and southbound directions and SR 78 in the eastbound and westbound directions in San Diego County.

This would subsequently improve traffic flows in nearby communities. There are several land use plans pertinent to the project area, as described in Section 2.1.2 – Consistency with State, Regional, and Local Plans and Programs. The proposed project would advance the intent and purpose of the goals and policies of these plans and would not result in an environmental impact due to conflict with any land use plans, policies, or regulations. Therefore, no impacts would occur to land use and planning.

3.2.12 MINERAL RESOURCES

Would the project:

Question	CEQA Determination
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	No Impact
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?	No Impact

Impacts to Mineral Resources is specific to CEQA Guidelines (CEQA Guidelines Appendix G: Environmental Checklist). Mineral resources are not otherwise evaluated in this document.

CEQA Significance Determinations for Mineral Resources

a, b) No Impact

There are no known mineral resources or mineral resource recovery sites in the project area (California Department of Conservation 2023). The proposed project would not impede the extraction of any known mineral resources, including mines. The City of San Marcos currently does not have active mines or quarries (City of San Marcos, 2012). Per the Escondido General Plan, Downtown Specific Plan, and Climate Action Plan EIR, the project area does not include any mineral resources. Therefore, no impacts would occur.

3.2.13 NOISE

Would the project result in:

Question	CEQA Determination
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?	Less Than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact
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 nautical miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

The analysis summarized in this section is from the Noise Study Report (Parsons, 2023) and the Noise Abatement Decision Report (Caltrans, 2023) completed for the proposed project. The CEQA baseline for this section is 2019-2022, when the noise measurements were conducted. The noise study and report were completed in 2022. Additionally, see Section 2.2.7 (Noise and Vibration) for additional information.

a) Less than Significant Impact

Noise abatement measures are considered when noise impacts are predicted in areas of frequent human use that would benefit from lowered noise levels. Noise barriers are the only form of abatement considered for the proposed project. Noise barriers have been evaluated for feasibility based on achievable noise reduction of 5 dB or more. For noise abatement to be acoustically feasible, it would be determined if the Caltrans acoustical design goal could be achieved, then reasonable cost allowances would be calculated. Where noise barriers are considered feasible, they would be designed during final design stages.

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02.

Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment decreases by approximately 6 dB each time the distance doubles. Measures NOISE-1 through NOISE-8, described in Section 2.2.7, Noise, would further minimize noise disturbances

during construction. Additionally, construction noise would be short-term, intermittent, and overshadowed by local traffic noise.

As described in Section 2.2.7, Noise, once operational, noise level modeling predicts a slight increase in noise levels of 0 to 4 dBA between existing conditions and the design year, and noise abatement has been considered. Where noise barriers are considered feasible, they would be designed during final design stages.

b) Less Than Significant Impact

Construction activities could cause intermittent localized concern from vibration in the project area. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, demolitions, or pavement braking may cause construction related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in close proximity to residential buildings. The vibration levels created by the normal movement of vehicles including graders, front loaders, and backhoes used for construction are the same order of magnitude as the groundborne vibration created by heavy vehicles traveling on streets and highways. Therefore, operating equipment would not generate excessive groundborne noise or vibration. No permanent adverse impacts would occur, and minimization measures identified in Section 2.2.7 would be implemented to minimize impacts to be less than significant.

c) No Impact

The proposed project is not within an airport land use. The nearest public use airport to the proposed project area is McClellan-Palomar Airport in Carlsbad (2198 Palomar Airport Rd, Carlsbad, CA 92008), approximately 4.66 miles west. Additionally, the project does not propose any housing or permanently occupied structures that could be exposed to airport noise from San Diego International Airport. Therefore, there would be no impact.

3.2.14 POPULATION AND HOUSING

Would the project:

Question	CEQA Determination
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)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

CEQA Significance Determinations for Population and Housing

a, b) No Impact

The proposed project does not propose any residential uses, nor would it displace any people or housing within the project area. The proposed project is intended to address existing and projected traffic conditions and improve access and circulation throughout the area. The proposed project would not affect growth or development patterns in the area and no additional or replacement housing would need to be constructed.

Therefore, no impact to population and housing would occur.

3.2.15 PUBLIC SERVICES

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 following public services:

Question	CEQA Determination
a) Fire protection?	Less Than Significant Impact
b) Police protection?	Less Than Significant Impact
c) Schools?	Less Than Significant Impact
d) Parks?	Less Than Significant Impact
e) Other public facilities?	Less Than Significant Impact

CEQA Significance Determinations for Public Services

a - e) Less Than Significant Impact

As described in Sections 2.1.3 – Parks and Recreational Facilities and 2.1.7 – Utilities/Emergency Services, there are various fire and police protection facilities, schools, and parks throughout the project area.

Lane closures and detours within the project area would be required to construct the proposed project. During final design, a TMP would be developed for the project to minimize construction-related delays and inconvenience to the project area residents, employees, and the traveling public. The TMP would include notification to emergency service providers and the public of lane closures and detours; coordination with CHP and local law enforcement and emergency service providers on contingency plans; and using portable Changeable Message Signs where possible to minimize delays. Therefore, emergency services would not be temporarily affected by construction of the Build Alternative. No law enforcement, fire, and/or emergency services would be permanently affected by the proposed project as access to I-15 and SR 78 would not be permanently altered by the project.

Minor construction delays are anticipated, which would be addressed in a TMP to ensure ongoing emergency access is maintained throughout the area. The proposed project would not include new residential uses that would create a new demand for public services/facilities, such as schools and parks, and no construction or alteration of governmental facilities would occur. Therefore, impacts would be less than significant.

3.2.16 RECREATION

Question	CEQA Determination
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less Than Significant Impact
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?	Less Than Significant Impact

CEQA Significance Determinations for Recreation

a, b) Less Than Significant Impact

The proposed project would be constructed within Caltrans and local jurisdiction ROW and would not require permanent acquisition of any parks or recreational facilities. Implementation of the Build Alternative would not result in any permanent impacts to any parks or recreational facilities, nor would the Build Alternative result in a significant increase in the use of these facilities, nor necessitate the need for construction of new parks or recreational facilities.

Montiel Park is 0.15 miles from the project, and two others are less than one-quarter mile away, Conners Park and the San Marcos Community Center. While the proposed project would be constructed within Caltrans and local jurisdiction ROW, construction activities such as staging, and equipment storage may require temporary construction easements (TCEs). However, it is not anticipated that any of the parks and recreational facilities described above in Table 2-4 would be fully or partially temporarily acquired for any TCEs.

These parks and recreational facilities are protected by the Park Preservation Act and Section 4(f) of the Department of Transportation Act of 1966. The proposed project would not result in any “direct and temporary use” of these facilities as defined by Section 4(f).

Street closures, detours, and slower travel times due to construction on local roadways for improvements along Rancheros Drive near the westbound on- and off-ramps, widening and realignment of Barham Drive between La Moree Road and Woodland Parkway, widening the Woodland Parkway undercrossing, and construction of a bike facility on Barham Drive/Woodland Parkway are not anticipated to inhibit existing recreational activities within the parks. Vehicle and pedestrian access to parks and recreational facilities would be maintained at all times during construction.

The proposed project would not induce additional demand on neighborhood and regional parks or other recreational facilities, either through providing new access or introducing new users of these facilities, such that substantial physical deterioration would occur or require the construction or expansion of recreational facilities. Therefore, this impact would be less than significant.

3.2.17 TRANSPORTATION

Would the project:

Question	CEQA Determination
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Significant and Unavoidable Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less Than Significant Impact
d) Result in inadequate emergency access?	Less Than Significant Impact

CEQA Significance Determinations for Transportation

a) No Impact

Current multi-modal options along the SR 78 corridor and in the surrounding communities lack high-frequency, high-capacity transit services (e.g., rail, commuter bus, bus rapid transit) to current and future major employment centers in north county. Consistent with the 2021 Regional Plan, intended to address regional vehicle miles traveled (VMT) in San Diego County, the implementation of managed lanes and transit services (as part of “complete corridors”) would provide greater flexibility and additional travel options on existing roadways. Commuters using the carpool/bus lanes would be able to bypass congestion in the general-purpose lanes and lower their travel time. In addition, as part of the North County Comprehensive Multimodal Corridor Plan, SANDAG and Caltrans have identified several transit and active transportation improvements surrounding the proposed project as part of a proposed Inland Mobility Gateway bundle of projects.

Managed lane and active transportation improvements would facilitate pedestrian and bicycle access, micro-transit, micro-mobility services, and planned bus rapid transit services from northern San Diego and Riverside County.

Once operational, the proposed project would improve access and circulation in the area, as described above, which would have a beneficial effect on delay times experienced by transit users. The proposed Managed Lanes-to-Managed Lanes connector between I-15 and SR 78 would directly enhance regional access between the existing Escondido Transit Center Mobility Hub and the future San Marcos Civic Center Mobility Hub. By providing a seamless, high-speed connection for high-occupancy vehicles, clean air vehicles, and bus rapid transit, the project would improve travel time reliability and operational efficiency for east-west transit routes serving both hubs. This enhanced connectivity supports regional goals to expand transit use, reduce greenhouse gas emissions, and improve access to multi-modal transportation options.

The proposed project would also improve access to transit stops in the area by making complete street improvements to improve pedestrian circulation. Therefore, no impacts would occur.

b) Significant and Unavoidable Impact

This impact question references the passage of SB 743, codified at PRC Section 21099, which mandated that transportation analysis under CEQA utilize VMT instead of vehicle delay, or LOS, as the metric for assessing transportation impacts.

Consistent with the 2021 Regional Plan, intended to address regional VMT in San Diego County, the implementation of managed lanes and transit services (as part of “complete corridors”) would provide greater flexibility and additional travel options on existing roadways. Commuters using the carpool/bus lanes would be able to bypass congestion in the general-purpose lanes and lower their travel time. An Induced Travel Study and a VMT Mitigation Plan were prepared by Caltrans for the I-15/SR 78 Managed Lanes Connectors in 2024.

The Induced Travel Study concluded that the project would increase VMT by 17.78 million vehicle miles per year. Since any increase in VMT is considered to be potentially significant, alternative mitigation measures were analyzed.

The proposed VMT mitigation improvements AMMs TRA-1 and TRA-2, as described in the VMT Memo and documented below, are complementary to components of the North County CMCP. Caltrans and SANDAG envision the implementation of a comprehensive program of multi-modal transportation improvements for the North County corridor similar to the program of improvements currently being implemented along San Diego’s North Coast corridor which is located near I-5 in the segment between San Diego and Oceanside. These measures would reduce the estimated annual VMT by 19.88 (millions).

Avoidance, Minimization, and/or Mitigation

In order to minimize the expected increase in VMT, potential VMT mitigation improvements AMMs TRA-1 and TRA-2 are proposed, as described in Section 3.2.17. The project team undertook an extensive process to determine projects and programs that would induce VMT from this project to a level of less than significant with mitigation incorporated. It is expected that the chosen mitigation strategies would offset any induced VMT and may provide even further VMT reduction in the project area. These measures would reduce the estimated annual VMT by 19.88 (millions) and are expected to mitigate the project’s induced VMT to a level of less than significant impact.

However, the two mitigation measures for VMT would be a combination of on-system mitigation and off-system mitigation. On-system mitigation is a measure that can be implemented within the Caltrans ROW. Caltrans, as owner and operator of the State Highway System and associated ROW, exercises more direct authority over on-system measures as opposed to off-system measures.

Off-system mitigation, outside of Caltrans' ROW, requires cooperation of those jurisdictions that have influence over land use and transportation systems outside of Caltrans' direct control.

For that reason, while the mitigation strategies would offset any induced VMT at project completion, funding for the VMT mitigation programs cannot be guaranteed in perpetuity. It is infeasible for an agency to commit funding for ongoing maintenance and operations past a specific time horizon due to future uncertainties. Once operational, the annual cost of the mitigation measures is estimated to be approximately \$2.8 million. Additional funding would need to be secured in the future to ensure the continued success and longevity of these programs. Some funding, such as for the voluntary trip reduction program, could be provided by toll revenue that is collected from the managed lanes system. The partner agencies plan to use the net toll revenue to fund VMT mitigation. Additional funding for vanpooling would need to be secured from regional sources, and therefore due to that future uncertainty, VMT impacts would be a significant and unavoidable impact under CEQA.

TRA-1: Reduce Demand – Voluntary Trip Reduction Program. Subsidies to employees in Escondido and San Marcos to Encourage work trips by alternative transportation modes through toll revenue for an estimated annual VMT reduction of 11.53 (millions).

TRA-2: Reduce Demand – Vanpooling. Provide Funding for 75 Vanpools between Temecula and the San Diego area through regional funding for an estimated annual VMT reduction of 8.35 (millions).

c) Less Than Significant Impact

The proposed project would not introduce or increase any hazards through geometric design features but would require Caltrans design exceptions. The addition of managed lanes and multi-modal improvements to improve interchange operations and safety within the project corridor by reducing vehicle weaving to/from general-purpose connectors on I-15. Additionally, the proposed project would also upgrade traffic signals at the freeway ramp intersections on Nordahl Road, Rancheros Drive, and Barham Drive. SIS can provide operational and safety benefits to all modes of transportation. Example applications that could be considered include warning drivers of bicycle/pedestrian presence, crash prediction response (red light extension), walk extension for vulnerable pedestrians, and near-miss analysis. Thus, the proposed project would improve regional access, circulation, and road safety which would minimize design hazards. Therefore, the impact would be less than significant.

d) Less Than Significant Impact

Operationally, the project would improve emergency access. Temporary construction impacts could have the potential to impact emergency access during construction. However, the proposed project would implement a TMP to ensure emergency vehicle access for fire responders is maintained throughout construction. Therefore, impacts are considered to be less than significant.

3.2.18 TRIBAL CULTURAL RESOURCES

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:

Question	CEQA Determination
a) 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	Less Than Significant with Mitigation Incorporated
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of 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.	Less Than Significant with Mitigation Incorporated

CEQA Significance Determinations for Tribal Cultural Resources

a, b, Less than Significant Impact With Mitigation Incorporated

The results of the HPSR (AECOM 2024) indicate that one Tribal Cultural Resource, located in association with archaeological site P-37-012096, was identified within the APE and is recommended as eligible for listing on the California Register of Historical Resources (CRHR) for the purposes of this project. The resource would be protected by the establishment of an ESA to prevent any inadvertent impacts during construction and would not be affected by the project. Therefore, the proposed project achieves a finding of No Historic Properties Affected with implementation of nonstandard conditions.

As consultation with the Rincon Band of Luiseño Indians was conducted for the project, the tribe indicated the area around the known archaeological site P-37-012096 is considered a significant resource to the tribe. Additionally, the resource would be considered eligible for listing on the CRHR under criteria 1/A, 2/B, and 3/C, for the purposes of the project. The proposed project would implement the AMMs detailed in Section 2.2.10 – Cultural Resources (CR-1 through CR-6) to avoid, minimize, and/or mitigate potential impacts on the resource. These AMMs would include the establishment of an ESA, an archaeological and Native American monitoring program, controlled grading within the archaeological monitoring area (AMA), and Cultural Resources Sensitivity Training, and would ensure compliance to California Health and Safety Code (H&SC) Section 7050.5 in the occurrence of human remains being discovered during construction. Therefore, impacts are considered to be less than significant with mitigation incorporated.

3.2.19 UTILITIES AND SERVICE SYSTEMS

Would the project:

Question	CEQA Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less Than Significant Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
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?	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

CEQA Significance Determinations for Utilities and Service Systems

a) Less Than Significant Impact

Power, gas, telecommunications (fiber optic), and water utilities are located within the project area. San Diego Gas & Electric (SDG&E) provides electrical and natural gas services to the project area. Water in the project area is supplied by Vallecitos Water District (City of San Marcos), and Valley Center Municipal Water District and Rincon del Diablo Municipal Water District (City of Escondido). AT&T, Frontier Communications, and Cox Communications are the main telecommunication providers in the project area.

Utility conflicts are anticipated given the highly developed nature of the project area and the proposed project components. Overhead electrical transmission lines are a key design consideration. There are existing 115 kilovolt (KV) overhead electrical lines that would need to be relocated and overhead utility lines that would be raised by SDG&E to maintain the required clearance above the local roadways. Utility relocation plans would be completed during the final design phase of the project.

Any relocation of utilities would result in localized construction impacts and could result in temporary interruption of service. If a temporary interruption in service is unavoidable,

it would be scheduled during non-use or off-peak service periods, and notifications to any affected parties would be made in advance by the utility provider and/or Public Information Officer. This standard Caltrans practice ensures that service disruptions are understood by the public and do not pose a health or safety risk to individual customers. Therefore, impacts would be less than significant.

b – e) No Impact

The proposed project would not result in any population growth or subsequent increase in water demand, wastewater generation, or solid waste disposal needs. Demands on these utility services during construction would be negligible. The project would not require the construction of any new or expanded water, wastewater treatment, or stormwater drainage facilities. Relocated or replaced utilities due to the conflicts mentioned above are anticipated to occur in the same general location. Therefore, no impact would occur.

3.2.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Question	CEQA Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
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?	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

The information in this section is based upon information presented in Sections 2.1.7 (Utilities/Emergency Services), Section 2.1.8 (Traffic and Transportation/Pedestrian and Bicycle Facilities), Section 3.2.7 (Geology and Soils), and Section 3.2.10 (Hydrology and Water Quality). See these sections for additional information.

CEQA Significance Determinations for Wildfire

a) Less Than Significant

The San Diego County Office of Emergency Services (OES) has developed an Emergency Operations Plan that provides the basis for a coordinated response before, during, and after an emergency affecting San Diego County (San Diego County, 2022). This plan applies to all unincorporated areas of San Diego County as well as incorporated areas that require a coordinated response to an emergency.

The Build Alternative would improve traffic congestion, flow and safety on an existing roadway. During construction, the project would require shoulder, ramp, local road, freeway and lane closures, which could result in temporary disruptions to local circulation and connectivity that could impact emergency access. A TMP would be prepared to minimize potential traffic impacts and ensure emergency vehicle access for emergency responders is maintained throughout construction. Once operational, the Build Alternative would improve emergency access by reducing congestion and improving traffic flow and safety. Therefore, impacts to adopted emergency response plans or emergency evacuation plans would be less than significant.

b. No Impact

The San Diego County Emergency Operations Plan (San Diego County OES, 2022), states that San Diego County experiences wildfires on a regular basis due to terrain and regular Santa Ana wind events and as such wildfire poses as significant risk. Once operational, the Build Alternative would not change fire risk conditions along the I-15/SR 78 corridor. During construction, measures for minimizing fire risks would be incorporated such as those described in Section 2.2.5 Hazardous Waste and Materials, and all construction activities would follow state and federal fire regulations. Therefore, the Project would not exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors. There would be no impact.

c. No Impact

The proposed project is a transportation improvement project and does not include infrastructure such as fuel breaks, emergency water sources, or additional roadways. As described in Section 2.1.7, Utilities/Emergency Services, existing utility service lines are present within the project, including overhead electrical lines. The project would require relocating some utilities and would follow state and federal fire regulations during relocation. Once operational, the fire risk associated with utilities would not be exacerbated beyond what currently exists and there would be no impact.

d. No Impact

As described in Section 2.2.2 Water Quality and Stormwater Runoff, the Build Alternative would increase the amount of impervious surface area, but this would be offset with the addition of new landscape areas, as described in Section 2.1.9 Visual/Aesthetics. In addition, as described in Section 2.2.3 Geology/Soils/Seismic/Topography, the project area is not identified as a Landslide Hazard Area and generally has no soil slippage susceptibility. The project would be designed and constructed to meet all Caltrans and local engineering design standards to minimize slope instability. Therefore, the Project would not 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 and there would be no impact.

3.2.21 MANDATORY FINDINGS OF SIGNIFICANCE

Question	CEQA Determination
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?	Less Than Significant with Mitigation Incorporated
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)?	Significant and Unavoidable Impact
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant with Mitigation Incorporated

CEQA Significance Determinations for Mandatory Findings of Significance

a) Less Than Significant with Mitigation Incorporated

The project would have less than significant impacts with mitigation incorporated for biological resources, cultural resources, GHG emissions, hazardous waste, and traffic.

The project would permanently impact approximately 3.6 acres Diegan coastal sage scrub (CSS) much of which is disturbed, approximately 0.4 of valley and foothill grassland habitat, and approximately 0.1 acre southern riparian scrub to the tributary of the San Marcos Creek.

Two listed animal species were identified in the USFWS species list that may occur within the project location, or may be affected by the proposed project, the federally threatened CAGN (*Polioptila californica californica*) and the federally endangered least Bell's vireo (*Vireo bellii pusillus*). Although no designated critical habitat for either species occurs within the BSA, a nesting pair of California gnatcatchers and their young were observed within project footprint of the Build Alternative during protocol surveys. Several migratory birds were also detected during surveys of the BSA.

Narrow leaf milkweed, which is a host plant for the federal candidate monarch butterfly (*Danaus plexippus*), was identified in the valley and foothill grassland habitat within the project footprint.

The results of the HPSR (AECOM 2024) indicate that one Tribal Cultural Resource, located in association with archaeological site P-37-012096, was identified within the APE and is recommended as eligible for listing on the California Register of Historical Resources (CRHR) for the purposes of this project. The resource would be protected by the establishment of an ESA to prevent any inadvertent impacts during construction and resulted in a No Historic Properties Affected with implementation of nonstandard conditions finding. Consultation with the Rincon Band of Luiseño Indians was conducted for the project, and the area around the known archaeological site P-37-012096 is considered a significant resource to the tribe. Additionally, the resource would be considered eligible for listing on the CRHR under criteria 1/A, 2/B, and 3/C, for the purposes of the project. The proposed project would implement the AMMs detailed in Section 2.2.10 – Cultural Resources (CR-1 through CR-6) to avoid, minimize, and/or mitigate potential impacts on the resource. These AMMs would include the establishment of an ESA, an archaeological and Native American monitoring program, controlled grading within the archaeological monitoring area (AMA), and Cultural Resources Sensitivity Training, and would ensure compliance to California Health and Safety Code (H&SC) Section 7050.5 in the occurrence of human remains being discovered during construction.

Due to improvements in vehicle technology and fuels, GHG emissions for the Build Alternative is anticipated to result in substantially lower GHG emissions than Existing/Baseline conditions. The Build Alternative would also result in a decrease in annual GHG emissions compared to the No Build Alternative due to the decrease in annual VMT. In addition, measures to reduce construction emissions, such as reducing construction equipment idling time, would further reduce GHG emissions.

Project design features that improve the regional multi modal transportation system through carpooling, cycling, and high-frequency rapid transit, and facilitating connections between planned and existing multi-modal facilities would further reduce GHG emissions and support local GHG reduction plans. GHG impacts would be less than significant.

Implementation of measures HW-1 through HW-5 would be implemented to minimize potentially hazardous waste impacts that may be uncovered during construction of the project.

The Induced Travel Study concluded that the project would increase VMT by 17.78 million vehicle miles per year. Implementation of VMT AMMs TRA-1 and TRA-2 would reduce annual VMT by 19.88 million vehicle miles per year, offsetting any induced VMT at project completion. However, funding for the VMT mitigation cannot be guaranteed in perpetuity and therefore, due to future funding uncertainty, VMT impacts would be significant and unavoidable.

b) Significant and Unavoidable Impact

Cumulative considerable impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the

proposed project. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

It is anticipated that the project would increase VMT by 17.78 million vehicle miles per year. Although with the implementation of TRA-1 and TRA-2, VMT is anticipated to be reduced by 19.88 million vehicle miles per year, these strategies would require actions by NCTD and the San Diego Association of Governments.

The project attributes and mitigation measures proposed would benefit local communities and commuters who use the corridor. The project is expected to encourage more carpools/vanpools and use of transit and active transportation that would help restrain growth in VMT.

While there may be uncertainties with funding the mitigation measures long-term, Caltrans and partners recognize that VMT impacts from the project extend indefinitely into the future. As such, TRA-1 and TRA-2 would be ongoing mitigation.

For that reason, while the mitigation strategies would offset any induced VMT at project completion, funding for the VMT mitigation programs cannot be guaranteed in perpetuity. It is infeasible for an agency to commit funding for ongoing maintenance and operations past a specific time horizon due to future uncertainties. Once operational, the annual cost of the mitigation measures is estimated to be approximately \$2.8 million. Additional funding would need to be secured in the future to ensure the continued success and longevity of these programs. Due to that future uncertainty with securing mitigation funds, VMT impacts would be a significant and unavoidable impact under CEQA.

The following resources are evaluated in this section for cumulative impacts: community impacts, acquisitions, and hazards and traffic and transportation.

Community Impacts

The resource study area (RSA) for cumulative community impacts includes portions of the Cities of San Marcos and Escondido. As discussed in Section 2.1.5, Community Character and Cohesion, based on the indicators of community cohesion, there is an overall good degree of community cohesion within both the Cities of San Marcos and Escondido. During construction, community members would still be able to use community services and facilities. However, there would be some degree of inconvenience due to construction-related delays, temporary closures, and construction equipment operation. Implementation of AMMs COM-2, COM-3, and COM-4 would minimize or reduce these temporary impacts by providing travel options in the forms of bus rapid transit service and vanpooling, and transportation subsidies for utilizing alternative transportation modes. One benefit to community character and cohesion is that construction jobs would generate temporary employment and revenues for both local and regional economies.

It is unlikely that community character and cohesion would be permanently impacted by the Build Alternative in either city in the RSA. Of note, I-15 and SR 78 have been prominent transportation corridors in North County for approximately 40 years and most of the communities in the RSA have been established adjacent to the existing ROW. As such, changes associated with the Build Alternative would result in minimal alterations to community character and cohesion, and no substantial adverse effects to communities would occur.

Acquisitions and Displacements

As discussed in Section 2.1.6, Relocations and Real Property Acquisition, the Build Alternative would not result in any residential displacements but would require full acquisition and displacement of a City of San Marcos-owned bungalow/storage structure and a portion of the parcel owned and operated by Grace International Church which would result in impacts to church parking spaces. The project would impact 71 parking spaces at Grace Church, replacing 59 spaces for a net loss of 12 spaces. In addition, parking spaces at 751 Rancheros Drive and 698 Rancheros Drive would be impacted. Currently, these parcels include a professional office building and a landscaping business. Approximately 19 parking spaces would be impacted at the parcels on Rancheros Drive. However, 11 of these spaces would be replaced resulting in a net loss of eight spaces. Acquisition and displacement of the parking spaces is not anticipated to result in displacement or relocation of the church, the professional office building or landscaping business.

Although the acquisition of parking spaces and the City of San Marcos parcel are anticipated as part of the Build Alternative would represent adverse effects, they are not anticipated to contribute to cumulative impacts. Most of the transit and transportation projects described above would occur on existing facilities. The development projects described are primarily infill. While the project area is anticipated to undergo notable changes with the proposed developments, no adverse cumulative impacts from real property acquisitions or relocations are foreseeable.

Traffic and Transportation

The analysis of future traffic conditions in Section 2.1.8, (Traffic and Transportation/ Pedestrian and Bicycle Facilities), considers traffic generated by existing and future planned land uses and the effect of future planned transportation improvements. As such, the Build Alternative would generally improve overall performance and safety, improve access to transit with complete street improvements, and facilitate pedestrian and bicycle access, micro-transit, micro-mobility services, and planned bus rapid transit services regionally.

The planned transportation and development projects in the general vicinity of the Build Alternative have the potential to temporarily result in a cumulative effect on traffic and transportation in the area. Particularly, these projects could compound temporary effects to in the RSA should an overlap in construction periods occur. However, these projects would implement measures that would avoid and/or minimize temporary

impacts related to access, delays, air quality, and noise. Further, many of these projects have multi-modal components and once operational, these projects would contribute a net benefit to local and regional traffic and transportation. Therefore, the Build Alternative would not contribute to a considerable cumulative impact to transportation and traffic, and mitigation would not be required.

Less Than Significant With Mitigation Incorporated

Construction activities, including temporary roadway closures and detours would lead to short-term traffic impacts to highway users, adjacent properties, business owners, and emergency service providers. The contractor would include advance notice and coordination with emergency providers in the TMP to minimize any potential temporary impacts on response times. The Project would have a less than significant impact with mitigation incorporated on human beings, either directly or indirectly.

3.3 WILDFIRE

3.3.1.1 Regulatory Setting

California Senate Bill 1241 required the Governor's Office of Land Use and Climate Innovation (previously referred to as 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.

3.3.1.2 Affected Environment

As described in Section 3.2.20 Wildfire, the proposed project is not located within or adjacent to a State Responsibility Area as classified by the California Department of Forestry and Fire Protection (CAL FIRE) as a Very High Fire Hazard Severity Zone (VHFHSZ) (CAL FIRE 2023)¹⁴. The nearest VHFHSZ is south of the Country Club Dr and Auto Park Way intersection, approximately one-quarter mile from the project site. The City of San Marcos identifies an area on the south side of SR 78 between La Moree Road and roughly the SPRINTER tracks as a Local Moderate wildfire risk area but is not identified as being in a federal or state wildfire hazard zone.

The San Diego County Office of Emergency Services (OES) has developed an Emergency Operations Plan that provides the basis for a coordinated response before, during, and after an emergency affecting San Diego County (San Diego County, 2022). This plan applies to all unincorporated areas of San Diego County as well as incorporated areas that require a coordinated respond to an emergency. The Cities of San Marcos and Escondido are included in this plan. In addition, The Safety Element of the City of San Marcos General Plan (2012), and the Community Protection Element of

¹⁴ Source: <https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008>

the City of Escondido (2012) detail plans and policies related to emergency response during natural and human-induced hazards, including wildfires. Section 2.1.7, Utilities/Emergency Services, describes the local fire stations within one-quarter mile of the project.

The nearest San Diego County fire station is located approximately 4 miles of the project area is the Del Dios Station No. 77, at 2323 Felicita Avenue, Escondido. This station is also a CalFire station. CalFire Deer Springs Station No. 2 at 1321 Deer Springs Road, San Marcos is approximately 4 miles north of the project area.

3.3.1.3 Environmental Consequences

THE NO BUILD ALTERNATIVE

The No Build Alternative would maintain the current configurations of the I-15/SR 78 interchange, lane configurations along SR 78, and connector roads. Under the No Build Alternative, the project would not be constructed, no impacts on emergency wildfire response or evacuation would occur, and the fire hazard risk in the project area would not change.

BUILD ALTERNATIVE

The Build Alternative would not impair implementation of an emergency response or emergency evacuation plan. Most of the work would occur in the state ROW. The Build Alternative would reduce travel time, which could support a decrease in emergency response time. As described in Section 2.1.8 Traffic and Transportation/Pedestrian and Bicycle Facilities, while the Build Alternative would increase VMT, average speeds are anticipated to improve due to the addition of managed lanes facilitating emergency response and evacuation. SIS, as described in Section 1.4 Project Alternatives, can provide operations and safety benefits to all modes of transportation during emergency response and evacuation. Changeable message signs and traffic monitoring could be leveraged by first responders in coordination with Caltrans during an evacuation to assist with the flow of emergency traffic.

Temporary construction impacts could have the potential to impact emergency access during construction. However, the proposed project would implement a TMP to ensure emergency vehicle access for fire responders is maintained throughout construction.

3.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans standard specifications inherently include safety measures which would indirectly result in minimization of wildfire risk from construction activities. Features of the project which contribute to resilience to wildfire include metal signposts, cement drainage structures and cleared vegetation.

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. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to GHG emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂ that is the main driver of climate change. In the United States and in California, transportation is the largest source of GHG emissions, mostly CO₂.

The impacts of climate change are already being observed in the form of sea level rise, drought, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis would include a discussion of both in the context of this transportation project.

To date, no nationwide numeric mobile-source GHG reduction targets have been established, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

Climate change standards are periodically updated and published through the federal rulemaking process.

3.4.1.1 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and EOs.

In 2005, EO S-3-05 initially set a goal to reduce California's GHG emissions to 80 percent below year 1990 levels by 2050, with interim reduction targets. Later EOs and assembly bills and SBs refined interim targets and codified the emissions reduction

goals and strategies. The California Air Resources Board (ARB) was directed to create a climate change scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Ongoing GHG emissions reduction was also mandated in Health and Safety Code (H&SC) Section 38551(b). In 2022, the California Climate Crisis Act was passed, establishing state policy to reduce statewide human-caused GHG emissions by 85 percent below 1990 levels, achieve net zero GHG emissions by 2045, and achieve and maintain negative emissions thereafter.

Beyond GHG reduction, the State maintains a climate adaptation strategy to address the full range of climate change stressors and passed legislation requiring state agencies to consider protection and management of natural and working lands as an important strategy in meeting the state’s GHG reduction goals.

3.4.1.2 Regional

The proposed project is in an urban and suburban area of San Diego County with a well-developed road and street network. Land uses adjacent to the corridor is a mix of Low Density Residential; Medium Density Residential; and Medium/High Density Residential; Mixed Use, Light Industrial, Institutional, and Commercial uses and includes a variety of businesses such as gas stations, retail stores, self-storage facilities, commercial offices, and grocery stores. The route in the project area is heavily used during peak hours. A metropolitan or regional transportation plan (MTP or RTP)/sustainable communities strategy (SCS) by SANDAG guides transportation development in the project area.

County of San Diego, 2024 Climate Action Plan

On September 11, 2024, the County Board of Supervisors adopted the 2024 Climate Action Plan (2024 CAP). Through its implementation, the County would reduce GHG emissions from activities within the unincorporated area and County operations to achieve a goal of net-zero emissions by 2045. In addition to reducing GHG emissions, the 2024 CAP would provide important benefits to residents, the environment, and economy by advancing environmental and social justice through preserving the environment, reducing health disparities, increasing access to green jobs, and improving quality of life. The GHG emissions inventory for the CAP focuses on emissions generated by activities within the unincorporated area and County operations from nine sources: on-road transportation, electricity, natural gas, solid waste, agriculture, propane, off-road transportation, water, and wastewater. The total emissions from the unincorporated community and County operations in 2019 were 2,984,000 metric tons of CO₂e. The 2024 CAP identifies two targets for emissions to reach 43.6 percent below 2019 levels by 2030 and 85.4 percent below 2019 levels by 2045.

3.4.1.3 Local

City of San Marcos, 2020 Final Climate Action Plan

The City of San Marcos has updated its Climate Action Plan (CAP) to meet new State of California goals for reducing GHG emissions and promoting the community's desires for a clean, sustainable environment.

As directed in AB 32 and SB 32, this CAP focuses on reducing emissions consistent with these legislative actions by 2020 and 2030. The 2020 and 2030 targets set in AB 32 and SB 32, and the legislative pathway to achieve these targets in California Air Resources Board's (CARB's) California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), represent benchmarks consistent with prevailing climate science, charting an appropriate trajectory forward that is in-line with the State's role in stabilizing global warming below dangerous thresholds. These goals aim to reduce statewide emissions to:

- 1990 levels by 2020;
- 40 percent below 1990 levels by 2030; and
- 80 percent below 1990 levels by 2050.

To determine an equivalent reduction target at the local level, CARB's 2017 Scoping Plan recommends communitywide GHG reduction goals for local climate action plans that would help the State achieve its 2030 target and longer-term 2050 goal (80 percent below 1990 levels by 2050). Estimating the equivalent reduction needed from the City's 2012 baseline based on the State inventory, the following adjusted reduction targets should be achieved in the City:

- 4 percent below 2012 levels by 2020; and
- 42 percent below 2012 levels by 2030.

The City has set its 2030 target based upon the trajectory necessary to meet the statewide 2050 goal. The City's targets would require GHG emissions to be reduced to 575,000 MTCO₂e in 2020 and 347,000 MTCO₂e in 2030.

City of Escondido, 2021 Climate Action Plan

The City's 2021 Climate Action Plan ("CAP") provides a roadmap for reducing GHG emissions through the implementation of various strategies, goals, actions and supporting measures. This CAP's reduction targets were established using a communitywide mass emissions approach as recommended by CARB. These targets, to be achieved through implementation of this CAP, are to reduce citywide GHG emissions to four percent below 2012 levels by 2020, 42 percent below 2012 levels by 2030, and 52 percent below 2012 levels by 2035.

3.4.1.4 GHG Inventories

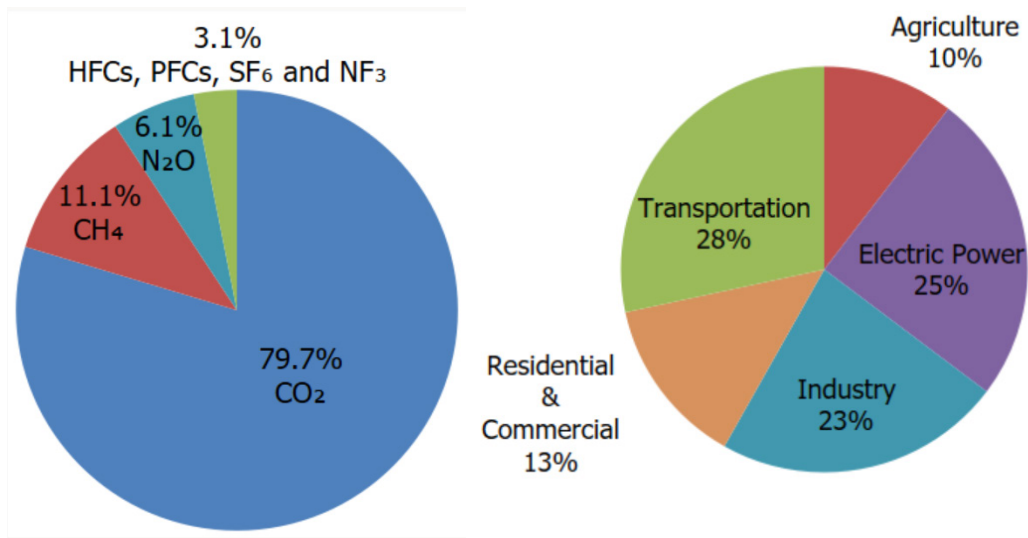
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state of California, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

NATIONAL GHG INVENTORY

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total national GHG emissions from all sectors in 2022 were 5,489.0 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector. (Land Use, Land Use Change, and Forestry provide a carbon sink equivalent to 15% of total U.S. emissions in 2022 [U.S. EPA 2024a].) While total GHG emissions in 2022 were 17% below 2005 levels, they increased by 1% over 2021 levels. Of these, 80% were CO₂, 11% were CH₄, and 6% were N₂O; the balance consisted of fluorinated gases. From 1990 to 2022, CO₂ emissions decreased by only 2% (U.S. EPA 2024a).

The transportation sector's share of total GHG emissions remained at 28% in 2022 and continues to be the largest contributing sector (Figure 3.4-1). Transportation activities accounted for 37% of United States. CO₂ emissions from fossil fuel combustion in 2022. This is a decrease of 0.5% from 2021 (U.S. EPA 2024a, 2024b).

Figure 3.4-1: United States 2022 Greenhouse Gas Emissions



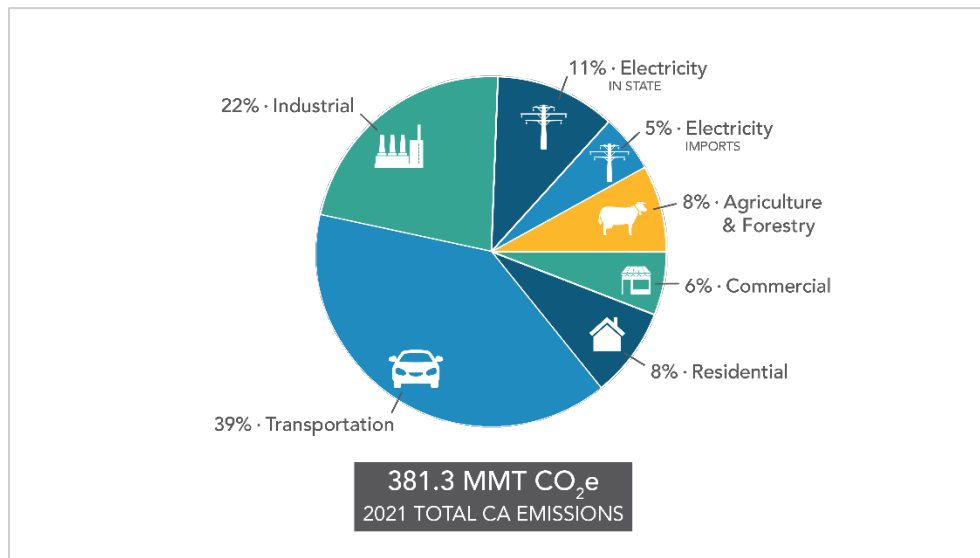
Source: U.S. EPA 2024b

STATE GHG INVENTORY

ARB 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. Overall statewide GHG emissions declined from 2000 to 2021 despite growth in population and state economic output (Figure 3.4-3).

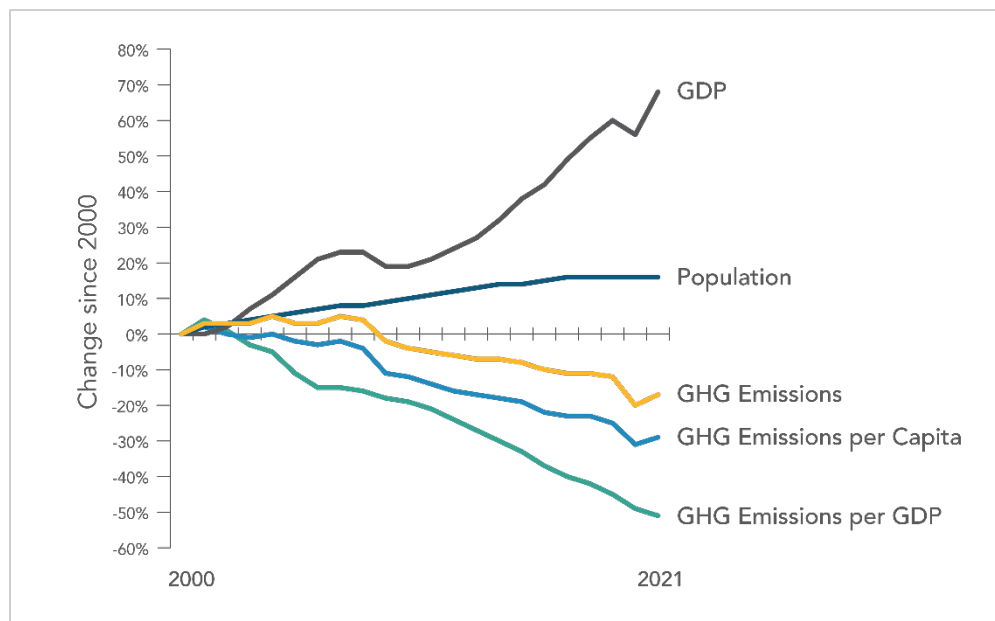
Transportation emissions remain the largest contributor to GHG emissions in the state (Figure 3.4-2) (ARB 2023).

Figure 3.4-2. California 2021 Greenhouse Gas Emissions by Economic Sector



Source: ARB 2023

Figure 3.4-3. Change in California GDP, Population, and GHG Emissions since 2000



Source: ARB 2023

AB 32 required ARB to develop a Scoping Plan that describes the approach California would take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California would use to reduce GHG emissions. ARB 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 SB 32. The *2022 Scoping Plan for Achieving Carbon Neutrality*, adopted September 2022, assesses progress toward the statutory 2030 reduction goal and defines a path to reduce human-caused emissions to 85 percent below 1990 levels and achieve carbon neutrality no later than 2045, in accordance with AB 1279 (ARB 2022a).

REGIONAL PLANS

As required by *The Sustainable Communities and Climate Protection Act of 2008*, ARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that would cumulatively achieve those goals, and reporting how they would be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the RTP/SCS for SANDAG. The regional reduction target for SANDAG is 19 percent by 2035 (ARB 2021). Regional and local climate action plans are summarized in Sections 3.4.1.2 and 3.4.1.3, respectively.

3.4.2 PROJECT ANALYSIS

GHG emissions from transportation projects can be divided into those produced during operation and use of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO₂, CH₄, N₂O, and HFCs. CO₂ emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH₄ and N₂O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector. GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP. CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called "carbon dioxide equivalent", or CO₂e. The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.)

The CEQA Guidelines generally address GHG 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 GHG must necessarily be found to contribute to a significant cumulative impact on the environment.

3.4.2.1 Operational Emissions

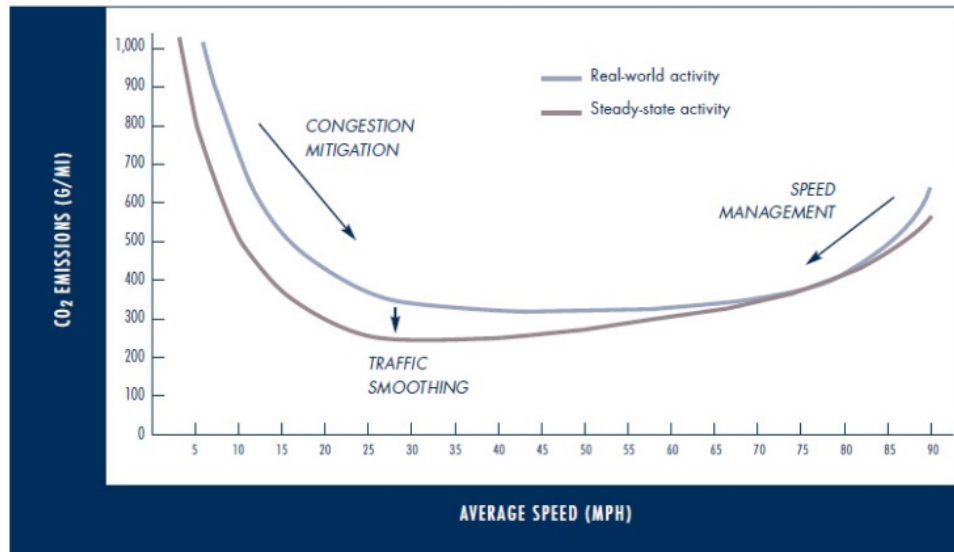
The National GHG Inventory for 2022 reported that 80 percent of all United States GHG emissions in 2022 consisted of CO₂, and fossil fuel combustion for transportation accounted for 35 percent of those CO₂ emissions. Most (37 percent) transportation-related CO₂ was from operating light-duty trucks, 23 percent from medium- and heavy-duty trucks and buses, and 20 percent from passenger cars. The remainder of emissions came from other modes and off-road sources (U.S. EPA 2024a). Because CO₂ emissions represent the greatest percentage of GHG emissions, it has been selected as a proxy for the following analysis for potential climate change impacts.

The highest levels of CO₂ 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 (see Figure 3.4-4). To the extent that a project enhances operational efficiency and improves travel times in high-congestion travel corridors, GHG emissions, particularly CO₂, may be reduced, provided that improved travel times do not induce additional VMT.

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 and efficiency. To be most effective, all four strategies should be pursued concurrently.

The purpose of the project is to provide reliable and sustainable transportation options, reduce travel times, improve mobility and access to jobs, housing, and services within North County communities near the project, as envisioned in the 2021 Regional Plan. To accomplish the purpose, the project incentivizes modes that have lower per capita emissions than SOVs, minimizes vehicle hours traveled VHT by reducing the number of vehicles and time spent traveling, and completes a key element of the region's planned managed lanes system. The proposed project is listed in SANDAG's 2023 financially constrained 2023 RTIP, Amendment No. 06 and 2025 RTIP (MPO ID: CAL277) and 2021 Regional Plan (Project ID: CC073).

Figure 3.4-4. Possible Use of Traffic Operation Strategies in Reducing On-road CO₂ Emissions



Source: Barth and Boriboonsomsin 2010

As detailed in Section 1.4.2, the Build Alternative would include multi-modal improvements to provide reliable and sustainable transportation options, reduce travel times, and improve mobility and access to jobs, housing, and services within North County. This alternative provides connectivity for travel between I-15 Express Lanes and proposed future managed lanes facilities along SR 78. Value pricing is a management tool where the cost to use a managed lane facility is varied to manage the demand on the facility. This alternative would also upgrade traffic signals at the freeway ramp intersections on Nordahl Road, Rancheros Drive, and Barham Drive. SIS can provide operations and safety benefits to all modes of transportation as well as include operational improvements to alleviate merging and weaving conditions. Improvements to merging and weaving conditions would result in lower traffic volumes. In addition, this alternative would allow HOV traffic and people with a FasTrak transponder to utilize the proposed I-15/SR 78 managed lane connector. It increases transportation options and provides travel time incentives to use carpools, van pools, or transit during peak travel periods. Extending the Express Lanes onto SR 78 would also allow more reliable trips to the San Marcos Mobility Hub and better access to jobs along San Marcos Boulevard/Palomar Airport Road. The improved operations and travel times on the freeway are expected to reduce cut through traffic in nearby communities. The project would also provide the infrastructure needed to extend existing bus rapid transit routes or create new routes to serve the growing region. As shown in Table 2-21, the project would result in lower annual vehicle miles traveled than existing conditions and the No Build Alternative.

Quantitative Analysis

ARB developed the Emission FACtors (EMFAC) model to facilitate preparation of statewide and regional mobile source emissions inventories. The model generates

emissions rates that can be multiplied by vehicle activity data from all motor vehicles, from passenger cars to heavy-duty trucks, operating on highways, freeways, and local roads in California. EMFAC has a rigorous scientific foundation, has been approved by U.S. EPA, and has been vetted through multiple stakeholder reviews. Caltrans developed CT-EMFAC to apply project-specific factors to ARB's model.

EMFAC's GHG emission rates are based on tailpipe emissions test data and 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 CT-EMFAC are therefore estimates and may not reflect actual on-road emissions. The model does not, however, account for induced travel. Modeling GHG estimates with EMFAC or CT-EMFAC nevertheless remains the most precise means of estimating future GHG emissions.

As summarized in Table 2-21, compared to the Existing/Baseline condition (2020), GHG emissions for the No Build Alternative and the Build Alternative are anticipated to result in substantially lower GHG emissions. This can be attributed to improvements in vehicle technology and reformulation of fuels, and fleet turnover over time. The Build Alternative would result in a decrease in annual GHG emissions compared to the No Build Alternative due to the decrease in annual VMT.

Since the proposed project would provide critical improvements in the regional multi-modal transportation system by accommodating the use of carpools, cyclists, pedestrians, and high-frequency rapid transit (e.g., commuter express, bus rapid transit) within the project corridor and facilitating connections between planned (e.g., SR 78 Managed Lanes) and existing (e.g., I-15 Managed Lanes) multi-modal facilities, no additional operational minimization measures are recommended for long-term (operations).

Construction Emissions

Construction GHG emissions would result from material processing and transportation, 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. While construction GHG emissions are only produced for a short time, they have long-term effects in the atmosphere, so cannot be considered "temporary" in the same way as criteria pollutants that subside after construction is completed.

Use of long-life pavement, improved TMPs, and changes in materials can also help offset GHG emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

Table 2-17 in Section 2.2.6 presents the project's construction-related GHG emissions.

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7 1.02C, Emissions Reduction, requires contractors to comply with all laws applicable to the project and to certify they are aware of and would comply with all ARB emission reduction regulations. Section 14-9.02, Air Pollution Control, 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. Additionally, measures AQ-1 through AQ-3 would be implemented. These measures are derived from SANDAG's *San Diego Forward*, 2021 Regional Plan Final Environmental Impact Report (SANDAG 2021).

3.4.2.2 CEQA Conclusion

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section. As detailed in Section 3.2.8, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, this impact is less than significant.

3.4.3 GREENHOUSE GAS REDUCTION STRATEGIES

3.4.3.1 Statewide Efforts

In response to Assembly Bill 32, the Global Warming Solutions Act, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that would transform transportation, industry, fuels, and other sectors to take California into a sustainable, cleaner, low-carbon future, while maintaining a robust economy (ARB 2022b).

Major sectors of the California economy, including transportation, would need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report:

(1) Increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) Reducing petroleum use by up to 50 percent by 2030; (3) Increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) Reducing emissions of short-lived climate pollutants; and (5) Stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions would come from cleaner vehicle technologies, lower-carbon

fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks is a key state goal for reducing GHG emissions by 2030 (CalEPA 2015).

In addition, SB 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.

Subsequently, Governor Gavin Newsom issued EO N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released Natural and Working Lands Climate Smart Strategy (California Natural Resources Agency 2022).

3.4.3.2 Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB 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 SB 32 (2016), set an 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.

CLIMATE ACTION PLAN FOR TRANSPORTATION INFRASTRUCTURE

The California Action Plan for Transportation Infrastructure (CAPTI) builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state would invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social goals (California State Transportation Agency 2021).

CALIFORNIA TRANSPORTATION PLAN

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit,

and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

3.4.3.3 Project-Level GHG Reduction Strategies

In addition to AQ-1 through AQ-3, measures from Caltrans' *GHG Reduction Measures Toolbox* would also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

3.4.4 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. Furthermore, the combined effects of transportation projects and climate stressors can exacerbate the impacts of both on vulnerable communities in a project area. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The *Fifth National Climate Assessment*, published in 2023, presents the most recent science and "analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; [It] analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years ... to support informed decision-making across the United States." Building on previous assessments, it continues to advance "an inclusive, diverse, and sustained process for assessing and communicating scientific knowledge on the impacts, risks, and vulnerabilities associated with a changing global climate" (United States Global Change Research Program 2023).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California's Fourth Climate Change Assessment (Fourth Assessment) (2018) provides information to help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state's people, infrastructure, natural systems, working lands, and waters. The Fourth Assessment reported that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is projected to experience an up to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures; a two-thirds decline in water supply from snowpack resulting in water shortages; a 77% increase in average area burned by wildfire; and large-scale erosion of up to 67% of Southern California beaches due to sea level rise. These effects would have profound impacts on infrastructure, agriculture, energy demand, natural systems, communities, and public health (State of California 2018).

To help actors throughout the state address the findings of California's Fourth Climate Change Assessment, AB 2800's multidisciplinary Climate-Safe Infrastructure Working Group published *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. This report provides guidance on assessing risk in the face of inherent uncertainties still posed by the best available climate change science. It also examines how state agencies can use infrastructure planning, design, and implementation processes to respond to the observed and anticipated climate change impacts (Climate-Safe Infrastructure Working Group 2018).

EO S-13-08, issued in 2008, directed state agencies to consider sea level rise scenarios for 2050 and 2100 during planning to assess project vulnerabilities, reduce risks, and increase resilience to sea level rise. It gave rise to the 2009 *California Climate Adaptation Strategy*, the Safeguarding California Plan, and a series of technical reports on statewide sea level rise projections and risks, including the *State of California Sea-Level Rise Guidance Update* in 2018. The reports addressed the full range of climate change impacts and recommended adaptation strategies. The current *California Climate Adaptation Strategy* incorporates key elements of the latest sector-specific plans such as the *Natural and Working Lands Climate Smart Strategy*, *Wildfire and Forest Resilience Action Plan*, *Water Resilience Portfolio*, and the CAPTI (described above). Priorities in the 2023 *California Climate Adaptation Strategy* include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, implementing nature-based climate solutions, using best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2023).

EO B-30-15 recognizes that effects of climate change threaten California's infrastructure and requires state agencies to factor climate change into all planning and investment decisions. Under this EO, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies*, to encourage a uniform and systematic approach to building resilience.

SB 1 Coastal Resources: Sea Level Rise (Atkins 2021) established statewide goals to "anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone." As the legislation directed, the Ocean Protection Council collaborated with 17

state planning and coastal management agencies to develop the *State Agency Sea-Level Rise Action Plan for California* in February 2022. This plan promotes coordinated actions by state agencies to enhance California's resilience to the impacts of sea level rise (California Ocean Protection Council 2022).

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

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 guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

SEA LEVEL RISE

The proposed project is outside the coastal zone and not in an area subject to sea level rise. Accordingly, direct impacts to transportation facilities due to projected sea level rise are not expected.

PRECIPITATION AND FLOODING

The proposed project is partially located in a floodplain outside the coastal zone; however, the proposed project is not expected to cause floodplain encroachment. Most of the project corridor lies within FEMA Zone X, with the western end in Zone AE, likely due to San Marcos Creek. Although the SR 78 overcrossing at Woodland Parkway would be widened, the Woodland Parkway overcrossing is not a culvert. San Marcos Creek runs adjacent to the westbound SR 78 at the western end of the project limits, but all road improvements in this area would be on the eastbound side of SR 78. While this portion of the project is located within FEMA Flood Zone AE, the work would occur on an existing transportation facility already within the flood zone, and the project would not result in permanent encroachment into the 100-year floodplain.

The 2019 Caltrans District 11 Climate Change Vulnerability Assessment (Caltrans 2019) estimated changes in 100-year storm precipitation depth, a variable commonly considered in the design of transportation assets such as bridges and culverts. Although the proposed project would result in a net increase in impervious surface areas, as detailed in Section 2.2.2 (Water Quality and Stormwater Runoff), the proposed project would adhere to existing regulations and implement standard BMPs to address stormwater runoff.

WILDFIRE

The proposed project is not located within lands classified by CAL FIRE as a VHFHSZ (CAL FIRE 2022). The land surrounding the project area is highly urbanized and not exposed to fire risk. Thus, the proposed project would not exacerbate existing wildlife risks or contribute to new risks that could occur under climate change.

TEMPERATURE

Pavement design includes an assessment of temperature in determining recommendations for the types of material used. With increasing temperatures, more durable materials might be necessary. Mapping shows that future change in the absolute minimum air temperature could be between 8.0 and 9.9 degrees Fahrenheit in 2085. The 2019 Caltrans District 11 Climate Change Vulnerability Assessment analyzed the effect of temperature on the choice of pavement binders. The selection of the pavement binder grade would consider the pavement temperatures a roadway may experience over time in order to maintain pavement integrity.

Chapter 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 the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this proposed project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, Project Development Team meetings, correspondence with other interested parties. This chapter summarizes the results of Caltrans's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Scoping Process

The formal scoping period was initiated with the preparation and distribution of a Notice of Preparation (NOP). A NOP is required under Section 15082 of the CEQA Guidelines and is used to notify responsible agencies, trustee agencies, federal agencies, and the public that the lead agency intends to prepare an EIR for a project. The NOP was posted at the State Clearinghouse No. 2020100326 on October 19, 2020, and circulated to the public agencies responsible for environmental resources affected by the proposed project. The minimum 30-day public scoping period ended on Friday, November 20, 2020.

Caltrans and SANDAG held a virtual scoping meeting for the proposed project on October 16, 2020, at 5:30 p.m. Pacific Standard Time, which could be accessed via a Zoom meeting link or Zoom telephone number. In addition to the publication of the NOP and virtual scoping meeting, the following public notification efforts were conducted:

- A project-specific web presence was established for convenient public access and outreach as a part of Keep San Diego Moving TransNet. TransNet is the voter approved half-cent sales tax for San Diego region transportation projects. It is administered by SANDAG and Caltrans (<https://sandag.mysocialpinpoint.com/1578>)
- A project-specific interactive map of the proposed project with the ability of commenting (<https://sandag.mysocialpinpoint.com/1578/map#/sidebar/tab/welcome>)
- Project-specific videos were uploaded onto YouTube, online video sharing and social media platform.
- Caltrans & SANDAG Seek Public Input on I-15/SR 78 Managed Lanes Direct Connectors Project (<https://www.youtube.com/watch?v=25JrljWqrqo>)
- Recorded I-15/SR78 Managed Lanes Direct Connectors Virtual Public Scoping Meeting (<https://www.youtube.com/watch?v=kcHqEHhu3oM&t=3s>)

The NOP was sent to the NAHC on October 23, 2020. The Notice of Completion (NOC) was sent to State Clearinghouse on October 16, 2020.

The NOP and a Public Scoping Meeting advertisement was included in the following newspaper publishers in San Diego County in October 2020:

- The San Diego Union-Tribune
- The Community Paper
- Escondido Times-Advocate
- El Latino San Diego (In Spanish)
- The Vista Press

A total of 58 comments were received during the scoping process via the project-specific web presence. Comments received included comments regarding the following categories.

- Traffic
- Lane Configuration
- Managed Lanes
- Managed Lanes Pricing
- Bike/Pedestrian
- Noise
- Transit
- Project Funding

Chapter 5 List of Preparers

The following Caltrans staff and consultants contributed to the preparation of this EIR/EA.

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Chapter 6 Distribution List

The Notice of Availability (NOA) for this Draft EIR/EA was distributed to federal, state, regional, and local agencies and elected officials, as well as interested groups, organizations, and individuals. The distribution list for the following parties is provided below:

- Federal Agencies
- State Agencies
- Local Agencies and Elected Officials

The NOA was also sent to approximately 2,800 property owners and residents in the project area. A full distribution list of property owners and residents in the area is available upon request at the Caltrans District 11 office.

6.1 Federal Agencies

U.S. Fish and Wildlife Service Carlsbad Office	U.S. Fish and Wildlife Service Carlsbad Office Attn: Sally Brown 2177 Salk Avenue, Suite 250 Carlsbad, California 92008
U.S. Army Corps of Engineers Los Angeles District	Army Corps of Engineers Los Angeles District Attn: Stephanie Hall 911 Wilshire Blvd Los Angeles, CA 90053
U.S. Environmental Protection Agency	U.S. EPA Attn: Jay Ogawa 501 West Ocean Blvd, Long Beach, CA 92106

6.2 State Agencies and Tribes

CA Department of Fish and Wildlife South Coast - Region 5	CA Department of Fish and Wildlife South Coast - Region 5 Attn: Simona Altman 3883 Ruffin Road San Diego, CA 92123
California Transportation Commission	California Transportation Commission 1120 N Street Sacramento, CA 95814

Regional Water Quality Control Board Region 9	Regional Water Quality Control Board Region 9 Attn: Michael Porter 2375 Northside Drive, Suite 100 San Diego, CA 92108
State Water Quality Control Board	State Water Quality Control Board P.O. Box 100 Sacramento, CA 95812
California Office of Historic Preservation	California Office of Historic Preservation Attn: Ms. Julianne Polanco 1725 23rd Street, Suite 100 Sacramento, CA 95816
California Highway Patrol – San Diego	California Highway Patrol – San Diego Attn: Officer Jacob Sanchez 4902 Pacific Highway San Diego, CA 92110
California Highway Patrol – San Diego	California Highway Patrol – San Diego Attn: Lieutenant Damian Budwine 4902 Pacific Highway San Diego, CA 92110
California Highway Patrol – San Diego	California Highway Patrol – San Diego Attn: Lieutenant Jim McNamara 4902 Pacific Highway San Diego, CA 92110
California Highway Patrol – San Diego	California Highway Patrol – San Diego Attn: Captain Jim Nellis 4902 Pacific Highway San Diego, CA 92110
California Highway Patrol – San Diego	California Highway Patrol – San Diego Attn: Taylor Cooper 4902 Pacific Highway San Diego, CA 92110
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Pechanga Band of Luiseño Indians	PO Box 1477, Temecula, CA 92593
Lipay Nation of Santa Ysabel	P.O. Box 130, Santa Ysabel, CA 92070
Rincon Band of Luiseño Indians	One Government Center, Lane Valley, CA 92082
Soboba Band of Luiseno Indians	P.O. Box 487, San Jacinto, CA 92583
California Tribal Families Coalition (CTFC)	36190 Church Road, Suite 1 Campo, CA 91906

Ewiiapaayp Band of Kumeyaay Indians	4054 Willows Road Alpine, Ca 91901
Jamul Indian Village	P.O. Box 612 Jamul, CA 91935
Viejas Band of Kumeyaay Indians	1 Viejas Grade Road Alpine, CA 91901
La Posta Band of Diegueno Mission Indians	8 Crestwood Road Boulevard, CA 91905
Mesa Grande Band of Diegueño Mission Indians	P.O Box 270 Santa Ysabel, CA 92070
Pala Band of Mission Indians	Pmb 50, 35008 Pala Temecula Rd Pala, CA 92061
Pauma Band of Luiseno Indians	P.O. Box 369 Pauma Valley, CA 92082
San Luis Rey Band of Mission Indians	1889 Sunset Drive Vista, CA 92081
San Pasqual Band of Diegueño Mission Indians	P.O. Box 365 Valley Center, CA 92061
Inaja-Cosmit Band of Indians	2005 S. Escondido Blvd Escondido, CA 92070
Kwaaymii Laguna Band of Mission Indians	P.O. Box 775 Pine Valley, CA 92019
La Jolla Band of Luiseno Indians	22000 Highway 76 Pauma Valley, CA 92069
Lipay Nation of Santa Ysabel	P.O. Box 507 Santa Ysabel, CA 92069
Barona Band of Mission Indians	1095 Barona Road Lakeside, CA 92069
Sycuan Band of the Kumeyaay Nation	1 Kwaaypaay Court El Cajon, CA 92019
Pechanga Band of Luiseno Indians	PO Box 1477 Temecula, CA 92593

6.3 Elected Officials and Local Agencies/Organizations

City of San Diego Development Services Department	City of San Diego Development Services Department Attn: Elyse Lowe, Director 101 Ash Street San Diego, CA 92101
City of San Diego Planning Department	City of San Diego Planning Department Attn: Mike Hansen, Director 9485 Aero Drive, M.S. 413 San Diego, CA 92123

City of San Diego Fire-Rescue Department	City of San Diego Fire-Rescue Department Attn: Colin Stowell 600 B Street, Ste. 1300 San Diego, CA 92101
City of San Diego Fire-Rescue Department	City of San Diego Fire-Rescue Department Attn: Steven Lozano 600 B Street, Ste. 1300 San Diego, CA 92101
San Diego Association of Governments (SANDAG)	San Diego Association of Governments (SANDAG) Attn: Richard Chavez 401 B Street, #800 San Diego, CA 92101
San Diego Association of Governments (SANDAG)	San Diego Association of Governments (SANDAG) Attn: Sam Sanford 401 B Street, #800 San Diego, CA 92101
San Diego Police Department Central Division	San Diego Police Department Central Division Attn: Lieutenant Adam Sharki 1401 Broadway San Diego, CA 92101
San Diego Police Department	San Diego Police Department Attn: Lieutenant Romeo de Los Reyes 1401 Broadway San Diego, CA 92101
San Diego Police Department	San Diego Police Department Attn: Lieutenant Jason Weeden 1401 Broadway San Diego, CA 92101
Barona Group of the Capitan Grande	Barona Group of the Capitan Grande Attn: Edwin Romero, Chairperson 1095 Barona Road Lakeside, CA 92040

City of Oceanside	City Manager	300 N Coast Highway Oceanside, CA 92054
City of San Diego Fire- Rescue Department	Fire Chief	600 B Street, Ste. 1300 San Diego, CA 92101
City of Carlsbad	Councilmember, District 1	1200 Carlsbad Village Drive Carlsbad, CA 92008
City of Carlsbad	Councilmember, District 2	1200 Carlsbad Village Drive Carlsbad, CA 92008

City of Carlsbad	Councilmember, District 4	1200 Carlsbad Village Drive Carlsbad, CA 92008
City of Escondido	City Manager	201 North Broadway Escondido, CA 92025
City of Escondido	Councilmember, District 4	201 N Broadway Escondido, CA 92025
City of Escondido	Councilmember, District 2	201 N Broadway Escondido, CA 92025
City of Oceanside	Deputy Mayor/ District 1 Rep.	300 N Coast Highway Oceanside, CA 92054
City of Oceanside	Councilmember, District 2	300 N Coast Highway Oceanside, CA 92054
City of Oceanside	Councilmember, District 3	300 N Coast Highway Oceanside, CA 92054
City of Oceanside	Councilmember, District 4	300 N Coast Highway Oceanside, CA 92054
City of Oceanside	Mayor Pro Tem, District 1	300 N Coast Highway Oceanside, CA 92054
City of San Diego, District 5	Councilmember	202 C Street 10th Floor San Diego, CA 92101
City of San Diego	Mayor	202 C Street, 11th Floor San Diego, CA 92101
City of San Diego, District 1	Council President	202 C Street, 10th Floor San Diego, CA 92101
City of San Marcos, District 2	Councilmember	1 Civic Center Drive San Marcos, CA 92069
City of San Marcos, District 3	Councilmember	1 Civic Center Drive San Marcos, CA 92069
City of San Marcos, District 4	Councilmember	1 Civic Center Drive San Marcos, CA 92069
North County Transit District	Executive Officer	810 Mission Avenue Oceanside, CA 92054

Appendix A Section 4(f) de minimis Analysis

SECTION 4(F) DE MINIMIS DETERMINATION(S)

I-15/SR 78 Managed Lanes Connector and Woodland Interchange Project

SAN DIEGO COUNTY, CALIFORNIA
DISTRICT 11 –SD–15, 78 (PM R30.6/R32.0 (15) and PM 12.6/R16.7 (78))
2T2400/1112000131

Appendix A Section 4(f) *De Minimis* Determination



**Prepared by the
State of California, Department of Transportation**

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 May 27, 2022, and executed by FHWA and Caltrans.



October 2024

1 Introduction

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

This Section 4(f) De Minimis Impact Finding considers the impacts of the I-15/SR 78 Managed Lanes Connector and Woodland Interchange Project on site P-37-012096, a contributing element of a much larger and yet to be defined Tribal Cultural Property (TCP)/Tribal Cultural Landscape (TCL), a cultural resource that is considered eligible for inclusion in the National Register of Historic Places (NRHP).

2 Project Description

The proposed project is located in the Cities of Escondido and San Marcos on I-15 (Post Miles: R30.6/R32.0) and on SR 78 (Post Miles:11.0/R16.7). In alignment with the SANDAG 2021 Regional Plan, this project proposes to build direct connector ramps utilizing lane management systems that will link the existing I-15 Express Lanes, which currently end just south of the I-15/SR 78 interchange in Escondido and extend managed lanes west on SR 78 for approximately three miles in both eastbound and westbound directions. The project would also reconstruct Barham Drive and the Woodland Parkway Interchange to improve multimodal access across SR 78. Class I multiuse paths are proposed along Barham Drive and Woodland Parkway.

The Build Alternative proposes to extend three miles of high-occupancy toll (HOT) lanes, which are referred to in this document as Express Lanes, in each direction on SR 78 between San Marcos Boulevard and I-15, build a direct connector for Express Lanes between I-15 and SR 78, extend the westbound auxiliary lane between Nordahl Road and Woodland Parkway/Barham Drive, relocate the eastbound SR 78 on-ramp from Barham Drive, widen and realign Barham Drive from La Moree Road to Woodland Parkway, widen the Woodland Parkway undercrossing, and construct a bike facility on Barham Drive/Woodland Parkway.

3 Description of Section 4(f) Property Impacted by the Project

Cultural resources studies were conducted to identify historic properties in the Area of Potential Effects (APE) (Attachment 1). In accordance with Section 106 PA Stipulation VIII.A, the APE for the project was established in consultation with Natalia Galeana, Caltrans PQS Archaeological Crew Member; Michelle Madigan, PQS Architectural Historian; Andy Walters, Caltrans Environmental Analysis Branch D Chief; and Kareem Scarlett, Project Manager on September 9, 2024. One historic property, P-37-012096 (CA-SDI-12096), was identified in the APE (Figure 1).

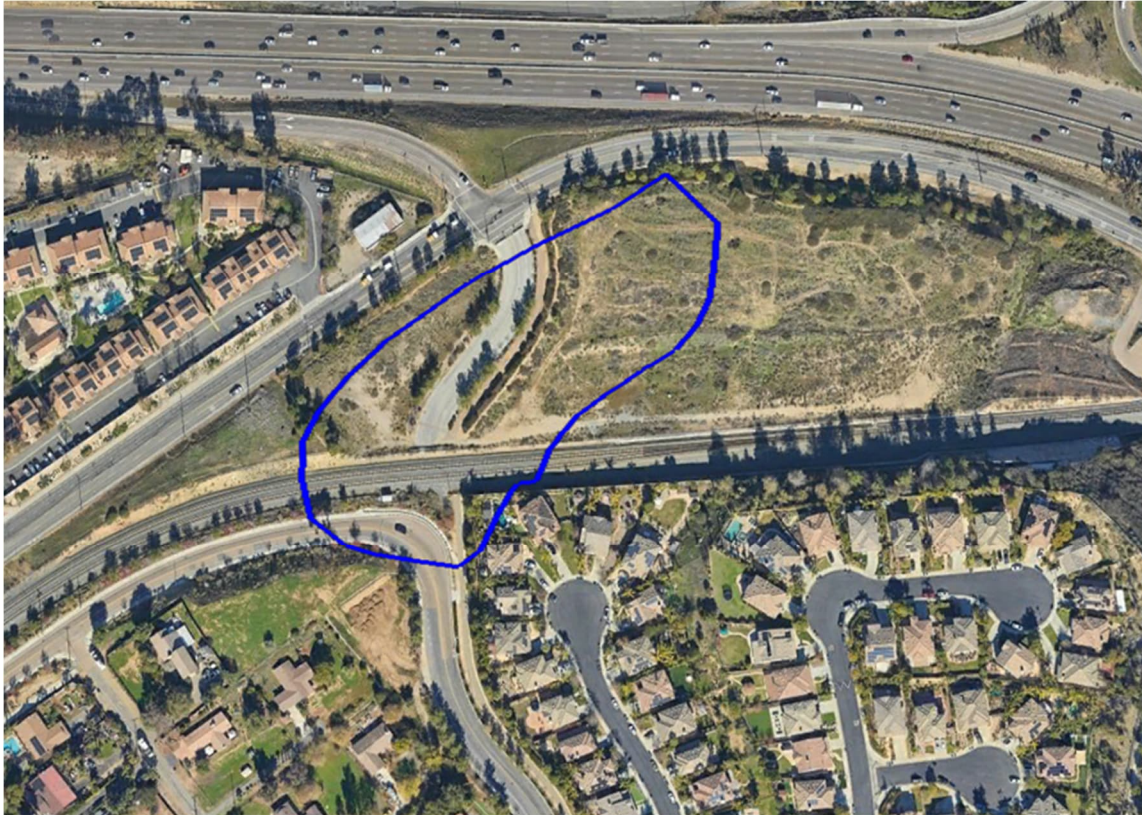


Figure 1: Aerial imagery of site P-37-012096 (Google Earth 2022)

Site P-37-012096 was originally recorded as a prehistoric lithic scatter and historic house location with an associated refuse deposit south of SR-78. The prehistoric portion of the historic property was recommended ineligible under Criterion D for the National Register of Historic Places (NRHP) in 2001 (Guerrero et al. 2001). The historic property was noted to have been destroyed by residential development when it was revisited in 2006 and 2007 (Hirsch 2006; Guerrero and Gallegos 2007). Two flakes, one of which exhibited uncertain cultural characteristics, were observed during the initial project survey in 2021. Cultural material associated with this resource was not observed in the project's survey in 2023 or XPI testing in 2024. During consultation with the Rincon Band of Luiseño Indians (Rincon), site P-37-012096 was identified as a contributing element of a much larger and yet to be defined TCP/TCL. Rincon considers this

resource to be eligible for the NRHP under Criteria A, B, and C. The period of significance would roughly correspond to the pre-mission Tipai-Luiseno territories in southern California and continue into the time of European colonization, until the end of the 19th century. The extent and exact boundaries of the TCP/TCL are not currently defined by Rincon, and site P-37-012096 would be the only contributing feature of the proposed TCP/TCL within the APE. The Caltrans Cultural Studies Office (CSO) approved the assumption of eligibility for site P-37-012096 in accordance with Stipulation VIII.C.4 of the Section 106 PA (Jeffrey Carr, email communication, July 18, 2024 [Attachment 2]).

4 Use of Section 4(f) Property by the Project

Project work in the vicinity of site P-37-012096 includes the reconstruction of Barham Drive and the Woodland Parkway Interchange, and Class I multiuse paths along Barham Drive and Woodland Parkway. This work will be limited to areas that were previously subject to significant disturbance from the construction of South Warplex Avenue and the NCTD Sprinter project. Sensitivity training will be given to all onsite personnel prior to construction. Archaeological and Native American monitors will be present to verify controlled grading methods are utilized within the AMA. Employing these conditions will ensure the project will not cause physical destruction or damage to the undeveloped areas of site P-37-012096.

5 Section 106 Consultation

A finding of *de minimis* impact on a historic site may be made when:

1. Caltrans has considered the views of any consulting parties participating in the consultation required by Section 106 of the NHPA, including the Secretary of the Interior or his representative if the property is a National Historic Landmark;
2. The SHPO/THPO, and Advisory Council on Historic Preservation (ACHP) if participating in the Section 106 consultation, are informed of Caltrans's intent to make a *de minimis* impact finding based on their written concurrence in the Section 106 determination of "no adverse effect;" and
3. The Section 106 process results in a determination of "no adverse effect" with the written concurrence of the SHPO/THPO, and ACHP if participating in the Section 106 consultation.

Based on a Finding of Effects assessment, Caltrans has determined that construction and operation of the project would not change the character of the property's use or of the physical features within the property's setting that contribute to its historic significance. The project as designed would not result in the introduction of visual, atmospheric, or audible elements that could diminish the integrity of these properties' significant historic features. In addition, the project would not result in the transfer, lease, or sale of any properties associated with the historic. The project will avoid all

adverse effects to site P-37-012096 through the establishment of an ESA, archaeological and Native American monitoring within the AMA, sensitivity training to all onsite personnel, and controlled grading within the AMA during construction. Caltrans is seeking SHPO concurrence with these findings pursuant to Section 106 PA Stipulation XI.C and 36 CFR 800.5. Concurrence from SHPO will be used as concurrence on the *de minimis* impact determination.

6 Preliminary De Minimis Determination

For the purposes of Section 4(f), a *de minimis* impact is a minimal impact to a Section 4(f) resource that is not considered to be adverse. For historic sites, a *de minimis* impact means that no historic property is affected or that there is a “no adverse effect” finding under 36 CFR Part 800.

The preliminary determination is that construction and operation of the project would result in no adverse effects on the activities, features, and attributes of site P-37-012096 subject to protection under Section 4(f). Based on the information presented above and the attached documents, the effects of the proposed I-15/SR 78 Managed Lanes Connector and Woodland Interchange Project on site P-37-012096 subject to the provisions of Section 4(f) of the United States Department of Transportation Act constitute a *de minimis* impact.

These findings are considered valid unless new information is obtained, or the proposed effects change to the extent that a new analysis is needed.

7 Consultation and Coordination Requirements Under Section 4(f)

Under 23 CFR 774.5, prior to making Section 4(f) approvals under 23 CFR 774.3(a), this Draft Section 4(f) De Minimis Determination will be provided for coordination and comment to the official with jurisdiction over the Section 4(f). A minimum of 45 days will be provided for receipt of comments. If comments are not received within 15 days after the comment deadline, a lack of objection is assumed, and the action may proceed.

In the case of historic properties, the official with jurisdiction is the SHPO for the state wherein the property is located or, if the property is located on tribal land, the official with jurisdiction is the Tribal Historic Preservation Officer. When the Advisory Council on Historic Preservation (ACHP) is involved with consultation concerning a property under Section 106 of the NHPA, the ACHP is also an official with jurisdiction over the resource for purposes of this part. When the property is a National Historic Landmark, the National Park Service is also an official with jurisdiction over the resource.

The regulations require written concurrence of the official(s) with jurisdiction in the following situations:

- Finding that there are no adverse effects prior to making a *de minimis* impact finding (23 CFR 774.5 [b]).

8 Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination(s)

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.

Publicly Owned Parks

The study area for parks and recreational facilities is defined as the area within 0.25 mile of the project limits. The study area was defined to identify an area large enough to assess the potential for the project to result in proximity impacts to resources protected under Section 4(f). The parks and recreational facilities within this study area are shown on Figure 2. Potential use of these facilities is described below.

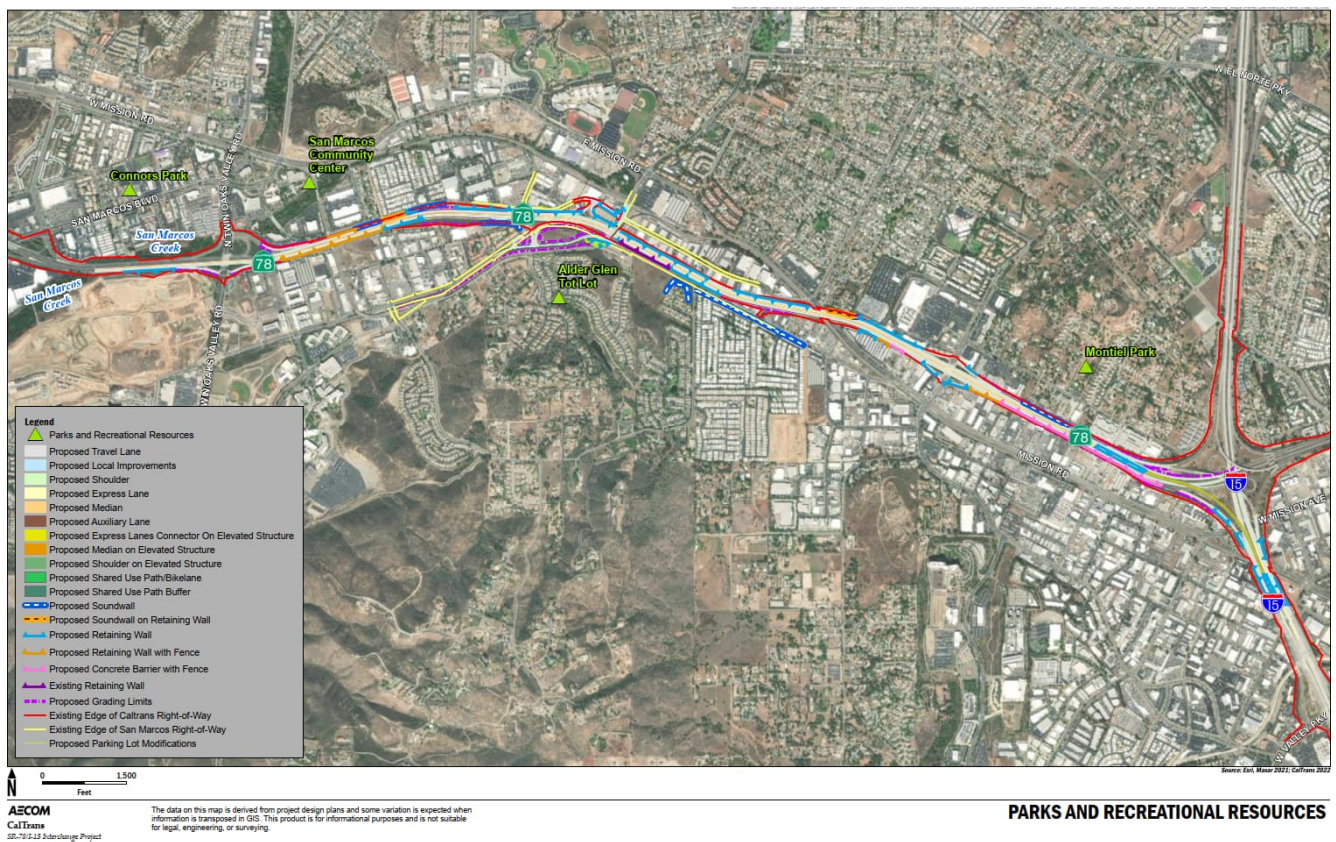


Figure 2: Parks and Recreational Areas within the Project Study Area

Alder Glen Tot Lot

Alder Glen Tot Lot is a publicly owned park at 608 Shelly Drive in San Marcos. It is approximately 0.25 miles from the project limits. Recreational facilities at the Alder Glen Tot Lot are mainly play equipment for toddlers and it is owned and managed by the City of San Marcos Parks and Recreation Department.

The project would not require the acquisition of lands from Alder Glen Tot Lot either on a permanent or temporary basis. Construction or operation of the project would not result in indirect adverse impacts to the Tot Lot. The project would not result in short or long-term air quality impacts. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02. Operational noise impacts are not anticipated due to the distance from the project limits and shielding from local topography.

The project would not hinder the use of the Alder Tot Lot, nor would any proximity impacts result in constructive use. The project would not adversely affect the activities, features, and attributes that qualify Alder Glen Tot Lot for protection under Section 4(f). Alder Glen Tot Lot is a Section 4(f) property, but no “use” will occur; the provisions of Section 4(f) do not apply.

Connors Park

Connors Park is a publicly owned park at 320 San Marcos Boulevard in San Marcos and is approximately 0.15 miles from the project limits. Recreational facilities at the park include a basketball court; lighted turf multi-purpose field; a pickleball court; play equipment; skate plaza; and lighted tennis courts. Connors Park is owned and managed by the City of San Marcos Parks and Recreation Department.

The project would not require the acquisition of lands from Connors Park either on a permanent or temporary basis. Construction or operation of the project would not result in indirect adverse impacts to the park. The project would not result in short or long-term air quality impacts. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02. Operational noise impacts are not anticipated due to the distance from the project limits and shielding from local topography.

The project would not hinder the use of Connors Park, nor would any proximity impacts result in constructive use. The project would not adversely affect the activities, features, and attributes that qualify Connors Park for protection under Section 4(f). Connors Park is a Section 4(f) property, but no “use” will occur; the provisions of Section 4(f) do not apply.

Montiel Park

Montiel Park is a publicly owned part at 2290 Montiel Road in San Marcos. It is approximately 0.15 miles from the project limits. Recreational facilities at the park

include a basketball court; disc golf; and a dog park. Montiel Park is owned and managed by the City of San Marcos Parks and Recreation Department.

The project would not require the acquisition of lands from Montiel Park either on a permanent or temporary basis. Construction or operation of the project would not result in indirect adverse impacts to the park. The project would not result in short or long-term air quality impacts. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02. Operational noise impacts are not anticipated due to the distance from the project limits and shielding from local topography.

The project would not hinder the use of Montiel Park, nor would any proximity impacts result in constructive use. The project would not adversely affect the activities, features, and attributes that qualify Montiel Park for protection under Section 4(f). Montiel Park is a Section 4(f) property, but no “use” will occur; the provisions of Section 4(f) do not apply.

San Marcos Community Center

The San Marcos Community Center is at 3 Civic Center Drive in San Marcos. It is approximately 0.20 miles from the project limits. San Marcos Community Center is owned and managed by the City of San Marcos Parks and Recreation Department. Recreational facilities at the center include play equipment and a trail connection.

The project would not require the acquisition of lands from the San Marcos Community Center either on a permanent or temporary basis. Construction or operation of the project would not result in indirect adverse impacts to the Community Center. The project would not result in short or long-term air quality impacts. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02. Operational noise impacts are not anticipated due to the distance from the project limits and shielding from local topography.

The project would not hinder the use of the Community Center, nor would any proximity impacts result in constructive use. The project would not adversely affect the activities, features, and attributes that qualify the Community Center for protection under Section 4(f). San Marcos Community Center is a Section 4(f) property, but no “use” will occur; the provisions of Section 4(f) do not apply.

ATTACHMENT 1

Area of Potential Effects (APE)

Contains Confidential Information and Available Upon Request

Walters, Andrew M@DOT

From: Carr, Jeffrey@DOT
Sent: Thursday, July 18, 2024 3:10 PM
To: Galeana, Natalia@DOT
Cc: Walters, Andrew M@DOT
Subject: RE: Request for approval of assumption of eligibility per Section 106 PA Stipulation VIII.C.4 for CA-SDI-12906 for the I-15/ SR-78 Express Lanes Connector Project.

Hi Natalia,

The Cultural Studies Office approves the assumption of eligibility for CA-SDI-12906 as a contributor to larger undefined TCP/TCL under NRHP Criteria A, B, and C due to limited potential for effects, pursuant to Stipulation VIII.C.4 of the Section 106 PA. Please keep a copy of this approval for the project file.

Jeff Carr

Acting Section 106 Coordinator
Cultural Studies Office, Caltrans Division of Environmental Analysis
1120 N Street, MS 27, Sacramento, CA 95814
(916) 351-0058
Jeffrey.carr@dot.ca.gov

From: Galeana, Natalia@DOT <Natalia.Galeana@dot.ca.gov>
Sent: Friday, July 12, 2024 11:32 AM
To: Carr, Jeffrey@DOT <Jeffrey.Carr@dot.ca.gov>
Cc: Walters, Andrew M@DOT <andrew.walters@dot.ca.gov>
Subject: Request for approval of assumption of eligibility per Section 106 PA Stipulation VIII.C.4 for CA-SDI-12906 for the I-15/ SR-78 Express Lanes Connector Project.

Hi Jeff,

District 11 Cultural Studies is requesting to consult with CSO regarding an assumption of eligibility under VIII.C.4 of the Section 106 Programmatic Agreement for one archaeological site - CA-SDI-12906 - for the Interstate 15 and State Route 78 Express Lanes Connector Project due to minimal potential to affect.

The I-15/SR-78 Interchange project proposes to build direct connector ramps utilizing lane management systems that will link the existing I-15 Express Lanes, which currently end just south of the I-15/SR-78 interchange in Escondido and extend managed lanes west on SR-78 for approximately three miles in both eastbound and westbound directions. The project would also reconstruct Barham Drive and the Woodland Parkway Interchange to improve multimodal access across SR-78.

CA-SDI-12096 consists of a precontact lithic scatter, historic house foundation and refuse deposit. The precontact component contained more than 10 patinated metavolcanic flakes and one small scrapper.

During consultation for the current project in 2024, the Rincon Band of Luiseno Indians identified one site located within the Area of Direct Impacts (ADI) as significant: CA-SDI-12906. According to the Tribe, the site is an ancestral place that is a contributing element to a much larger and yet to be defined TCP/TCL. The tribe considers this site to be eligible under all three Criteria (Criterion A, B, and C). The extent and exact boundaries of the TCP/TCL are not currently defined by the tribe, therefore D11 proposes to consider CA-SDI-12906 eligible under Criterion A, B, and C, as the only contributing

feature of the proposed TCP/TCL in the APE. The period of significance would roughly correspond to the pre-mission Tipai-Luiseno territories in southern California and continue into the time of European colonization, until the end of the 19th century.

The archaeological site has been tested at various times for the following programs: The Oceanside-Escondido Rail Project (Guerrero, Stropes and Gallegos 2001) and Extended Phase I Investigation for the Interstate 15 and State Route 78 Express Lanes Connector Project (Brodie 2024). In addition, the area was also monitored during the North County Transit District (NCTD) Sprinter Rail Project (Gallegos and Guerrero 2007). However, prior to the 2000s, the area had also been impacted by a residential development in the 1990s. As such, it is unlikely that the archaeological site within the TCP will yield data potential (criterion D)

D11 intends to propose that the undertaking will result in No Adverse Effect to CA-SDI-12906 because the APE consists of a well utilized and maintained transportation corridor and city parcels that have experienced exhaustive previous disturbances and the potential to encounter intact subsurface components of these resources is low.

Please let me know if you need any additional information.

Thanks,

Natalia Galeana

Associate Env. Planner (Archaeology)

AB275 Person of Contact

Caltrans District 11

4050 Taylor St., MS 242

San Diego, CA 92101

(858)-289-1266

Natalia.Galeana@dot.ca.gov



Appendix B Title VI/Non-Discrimination Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49 | SACRAMENTO, CA 94273-0001
(916) 654-6130 | FAX (916) 653-5776 TTY 711
www.dot.ca.gov



September 2024

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

It is the policy of the California Department of Transportation (Caltrans), in accordance with Title VI of the Civil Rights Act of 1964 and the assurances set forth in the Caltrans' Title VI Program Plan, to ensure that no person in the United States shall on the grounds 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. Related non-discrimination authorities, remedies, and state law further those protections, including sex, disability, religion, sexual orientation, age, low income, and Limited English Proficiency (LEP).

Caltrans is committed to complying with 23 C.F.R. Part 200, 49 C.F.R. Part 21, 49 C.F.R. Part 303, and the Federal Transit Administration Circular 4702.1B. Caltrans will make every effort to ensure nondiscrimination in all of its services, programs, and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin (including LEP). In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

The overall responsibility for this policy is assigned to the Caltrans Director. The Caltrans Title VI Coordinator is assigned to the Caltrans Office of Civil Rights Deputy Director, who then delegates sufficient responsibility and authority to the Office of Civil Rights' managers, including the Title VI Branch Manager, to effectively implement the Caltrans Title VI Program. Individuals with questions or requiring additional information relating to the policy or the implementation of the Caltrans Title VI Program should contact the Title VI Branch Manager at title.vi@dot.ca.gov or at (916) 639-6392, or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

A handwritten signature in black ink, appearing to read 'Tony Tavares', is positioned above the printed name.

TONY TAVARES
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Appendix C **Summary of Relocation Benefits**

Your Rights and Benefits
as a Displaced
Business, Farm, or
Nonprofit Organization
Under the California
Department of
Transportation Relocation
Assistance Program



California Department of
Transportation

Introduction

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.



Displaced businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

**Uniform Relocation Assistance and Real Property
Acquisition Policies Act of 1970 as Amended
"The Uniform Act"**



The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their business, farm or non-profit organization, by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

To ensure that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.

Relocation Services

The California Department of Transportation has two programs to aid businesses, farms and nonprofit organizations which must relocate.

These are:

1. The Relocation Advisory Assistance Program, which is to aid you in locating a suitable replacement property, and
2. The Relocation Payments Program, which is to reimburse you for certain costs involved in relocating. These payments are classified as:
 - Moving and Related Expenses (costs to move personal property not acquired).
 - Reestablishment Expenses (expenses related to the replacement property).
 - In-Lieu Payment (a fixed payment in lieu of moving and related expenses, and reestablishment expenses).

Note: Payment for loss of goodwill is considered an acquisition cost. California law and the federal regulations mandate that relocation payments cannot duplicate other payments such as goodwill.

You will **not** be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. You will also receive at least 90 days' written notice before you must move.

Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

Business: Any lawful activity, with the exception of a farm operation, conducted primarily for the purchase, sale, lease and rental of personal or real property, or for the manufacture, processing, and/or marketing of products, commodities, or any other personal property, or for the sale of services to the public, or solely for the purpose of this Act, and outdoor advertising display or displays, when the display(s) must be moved as a result of the project.

Small Business: A business having not more than 500 employees working at the site being acquired or displaced by a program or project.

Contributes Materially: A business or farm operation must have had average annual gross receipts of at least \$5,000 or average annual net earnings of at least \$1,000, in order to qualify as a bona-fide operation.

Farm Operation: Any activity conducted solely or primarily for the production of one or more agricultural products or commodities, including timber, for sale and home use, and customarily producing such products or commodities in sufficient quantity to be capable of contributing materially to the operator's support.

Nonprofit Organization: A public or private entity that has established its nonprofit status under applicable law.

Moving Expenses



If you qualify as a displaced business, farm or nonprofit organization, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. To qualify you must legally occupy the property as the owner or lessee/tenant when Caltrans initiates negotiations for the acquisition of the property **OR** at the time Caltrans acquires title or takes possession of the property. However, to assure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

You Can Choose Either:

Actual Reasonable Moving Costs – You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses, with limitations, may include:

- Transportation.
- Packing and unpacking personal property.
- Disconnecting and reconnecting personal property related to the operation.
- Temporary storage of personal property.
- Insurance while property is in storage or transit, or the loss and damage of personal property if insurance is not reasonably available.
- Expenses in finding a replacement location (\$2,500 limit).
- Professional services to plan and monitor the move of the personal property to the new location.
- Licenses, permits and fees required at the replacement location.

OR

Self-Move Agreement – You may be paid to move your own personal property based on the lower of two acceptable bids obtained by Caltrans.

Under this option, you will still be eligible for

reimbursement of related expenses listed above that were not included in the bids.

OR

In-Lieu Payment – A small business may be eligible to accept a fixed payment between \$1,000 and \$40,000, based on your annual earnings IN LIEU OF the moving cost and related expenses. Consult your Relocation Agent for more information about this option.

Actual Reasonable Moving Costs

You may be paid the actual reasonable and necessary costs of your move when a professional mover performs the move. All of your moving costs must be supported by paid receipts or other evidence of expenses incurred. In addition to the transportation costs of your personal property, certain other expenses may also be reimbursable, such as packing, crating, unpacking and uncrating, and the disconnecting, dismantling, removing, reassembling, and reinstalling relocated machinery, equipment, and other personal property.

Other expenses such as professional services necessary for planning and carrying out the move, temporary storage costs, and the cost of licenses, permits and certifications may also be reimbursable. This is not intended to be an all-inclusive list of moving related expenses. Your Relocation Agent can

provide you with a complete explanation of reimbursable expenses.

Self-Move Agreement

If you agree to take full responsibility for all or part of the move of your business, farm, or nonprofit organization, the Department may approve a payment not to exceed the lower of two acceptable bids obtained by the Department from qualified moving firms or a qualified Department staff employee. A low-cost or uncomplicated move may be based on a single bid or estimate at the Department's discretion. The advantage of this moving option is the fact that it relieves the displaced business, farm, or nonprofit organization operator from documenting all moving expenses. The Department may make the payment without additional documentation as long as the payment is limited to the amount of the lowest acceptable bid or estimate. Other expenses, such as professional services for planning, storage costs, and the cost of licenses, permits, and certifications may also be reimbursable if determined to be necessary. These latter expenses must be pre-approved by the Relocation Agent.

Requirements:

Before you move, you must provide Caltrans with the:

- Certified inventory of all personal property to be moved.
- Date you intend to vacate the property.
- Address of the replacement property.
- Opportunity to monitor and inspect the move from the acquired property to the replacement property.

Related Expenses

1. **Searching Expenses for Replacement Property:**

Displaced businesses, farms, and nonprofit organizations are entitled to reimbursement for actual reasonable expenses incurred in searching for a replacement property, not to exceed \$2,500. Expenses may include transportation, meals, and lodging when away from home; the reasonable value of the time spent during the search; fees paid to the real estate agents, brokers or consultants; and other expenses determined to be reasonable and necessary by the Department.



2. Direct Loss of Tangible Personal Property:

Displaced businesses, farms, and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property which is incurred as a result of the move or discontinuance of the operation. This payment will be based upon the lesser of:

- a) The fair market value of the item for continued use at the displacement site minus the proceeds from its sale.

OR

- b) The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE:

You determine that the "document shredder" cannot be moved to the new location because of its condition, and you will not replace it at the new location.

Fair Market Value of the Document Shredder based on its use at the current location		\$ 1,500
Proceeds: Price received from selling the Document Shredder	-	<u>\$ 500</u>
Net Value		\$ 1,000

OR

Estimated cost to move	\$ 1,050

Based on the "lessor of," the amount of the "Loss of Tangible Personal Property" =	\$ 1,000

Note: You are also entitled to all reasonable costs incurred in attempting to sell the document shredder (e.g. advertisement).

3. Purchase of Substitute Personal Property: If an item of personal property, which is used as part of the business, farm, or nonprofit organization, is not moved but is promptly replaced with a substitute item that performs a comparable function at the replacement site, the displacee is entitled to payment of the lesser of:

a) The cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item;

OR

b) The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE A:

You determine that the copying machine cannot be moved to the new location because it is now obsolete and you will replace it.

Cost of a substitute <i>Copying Machine</i> including installation costs at the replacement site.		\$ 3,000
Trade-in Allowance	-	<u>\$ 2,500</u>
Net Value		\$ 500

OR

Estimated cost to move	\$ 550

Based on the "lesser of," the amount of the "Substitute Personal Property" =	\$ 500

EXAMPLE B:

You determine that the chairs will not be used at the new location because they no longer match the décor and you will replace them.

Cost of substitute chairs		\$ 1,000
Proceeds: From selling the Chairs	-	<u>\$ 100</u>
Net Value		\$ 900

OR

Estimated cost to move \$ 200

Based on the "lesser of," the amount of
the "Substitute Personal Property" = \$ 200

Note: You are also entitled to all reasonable costs incurred in attempting to sell the document shredder (e.g. advertisement).

- 4. Disconnecting and Reinstallation:** You will be reimbursed for your actual and reasonable costs to disconnect, dismantle, remove, reassemble and reinstall any machinery, equipment or other personal property in relation to its move to the new location. This includes connection to utilities available nearby and any modifications to the personalty that is necessary to adapt it to utilities at the replacement site.
- 5. Physical changes at the new location:** You may be reimbursed for certain physical changes to the replacement property if the changes are necessary to permit the reinstallation of machinery or equipment necessary for the continued operation of the business. **Note:** *The changes cannot increase the value of the building for general purposes, nor can they increase the mechanical capability of the buildings beyond its normal requirements.*

- 6. The cost of installing utilities from the right of way line to the structure(s) or improvements on the replacement site.**
- 7. Marketing studies, feasibility surveys and soil testing.**
- 8. One-time assessments or impact fees for anticipated heavy utility usage.**

Reestablishment Expenses

A small business, farm or nonprofit organization may be eligible for a payment, not to exceed \$25,000, for expenses actually incurred in relocating and reestablishing the enterprise at a replacement site.

Reestablishment expenses may include, but are not limited to, the following:

1. Repairs or improvements to the replacement real property required by Federal, State or local laws, codes or ordinances.
2. Modifications to the replacement of real property to make the structure(s) suitable for the business operation.
3. Construction and installation of exterior signing to advertise the business.
4. Redecoration or replacement such as painting, wallpapering, paneling or carpeting when

required by the condition of the replacement site or for aesthetic purposes.

5. Advertising the new business location.
6. The estimated increased costs of operation at the replacement site during the first two years, for items such as:
 - a) Lease or rental charges
 - b) Personal or real property taxes
 - c) Insurance premiums, and
 - d) Utility charges (excluding impact fees).
7. Other items that the Department considers essential for the reestablishment of the business or farm.

In-Lieu Payment (Fixed)

Displaced businesses, farms, and nonprofit organizations may be eligible for a fixed payment in lieu of (in place of) actual moving expenses, personal property losses, searching expense, and reestablishment expenses. The fixed payment may not be less than \$1,000 or more than \$40,000.

For a business to be eligible for a fixed payment, the Department must determine the following:

1. The business owns or rents personal property that must be moved due to the displacement.
2. The business cannot be relocated without a substantial loss of existing patronage.
3. The business is not part of a commercial enterprise having more than three other businesses engaged in the same or similar activity, which are under the same ownership and are not being displaced by the department.
4. The business contributed materially to the income of the displaced business operator during the two taxable years prior to displacement.

Any business operation that is engaged solely in the rental of space to others is not eligible for a fixed payment. This includes the rental of space for residential or business purposes.

Eligibility requirements for farms and nonprofit organizations are slightly different than business requirements. If you are being displaced from a farm or you represent a nonprofit organization and are interested in a fixed payment, please consult your relocation counselor for additional information.

Note: A nonprofit organization must substantiate that it cannot be relocated without a substantial loss of existing patronage (membership or clientele). The payment is based on the average of two years annual gross revenues less administrative expenses.

The Computation of Your In-Lieu Payment:

The fixed payment for a displaced business or farm is based upon the average annual net earnings of the operation for the two taxable years immediately preceding the taxable year in which it was displaced. Caltrans can use a different two year period if it is determined that the last two taxable years do not accurately reflect the earnings of the operation.

EXAMPLE: Caltrans acquires your property and you move in 2013:

2011 Annual Net Earnings	\$ 10,500
2012 Annual Net Earnings	<u>\$ 12,500</u>
TOTAL	\$ 23,000
Average over two years	\$ 11,500

This would be the amount of your in-lieu payment. Remember – this is in-lieu of all other moving benefits. You must provide the Department with proof of net earnings to support your claim.

Proof of net earnings can be documented by income tax returns, certified financial statements, or

other reasonable evidence of net earnings acceptable to the Department.

Note: The computation for nonprofit organizations differs in that the payment is computed on the basis of average annual gross revenues less administrative expenses for the two-year period specified above.

Before You Move:

- A. Complete a "Request for Determination of Entitlement" form available from your Relocation Agent and return it promptly.
- B. Include a written statement of the reasons the business cannot be relocated without a substantial loss in net earnings.
- C. Provide certified copies of tax returns for the two tax years immediately preceding the tax year in which you move. (If you move anytime in the year 2013, regardless of when negotiations began or the State took title to the property, the taxable years would be 2011 and 2012).
- D. You will be notified of the amount you are entitled to after the application is received and approved.
- E. You cannot receive the payment until after you vacate the property AND submit a claim for the payment within 18 months of the date of your move.

Relocation Advisory Assistance



Any business, farm or non-profit organization, displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your needs and desires will be determined as well as your need for assistance.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Determine your needs and preferences.
- Explain the relocation benefits and eligibility.
- Provide information on replacement properties for your consideration.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits.
- Interest rates and terms.
- Typical down payments.
- Permits, fees and local planning ordinances.
- SBA loan requirements.
- Real property taxes.
- Consumer education literature.

If you desire, your Relocation Agent will give you current listings of other available replacement property. Transportation will be provided to inspect available property, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local programs offering assistance to displaced persons. If you have special needs, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember – YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.

YOUR RIGHTS AS A DISPLACEE

It is important to remember that your relocation benefits will not have an adverse effect on your:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible agency if that person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

Americans with Disabilities Act (ADA) Notice:

This document is available in alternative formats for people with physical disabilities. Please call (916) 654-5413, or write to "Department of Transportation - Right of Way, MS-37, 1120 N Street, Sacramento, CA 95814," for information.

NOTES:



Non-Residential (2nd Printing)
Effective October 1, 2014

Appendix D

Avoidance, Minimization and/or Mitigation Summary

15/SR 78 Managed Lanes Connector and Woodland Interchange Project Environmental Commitment Record (ECR)

ECR #s	Task and Brief Description	Reference	Responsible Branch / Staff	Timing / Phase	NSSP, SSP, Std Spec, Permit	PS&E Action Taken to Comply/Remarks	Construction Action Taken to Comply/Remarks	PS&E Task Completed		Construction Task Completed	
	Parks and Recreational Facilities	.	.	.	.	.	.	.	.	.	.
1	Traffic Management Plan (TMP). During the duration of project construction, a TMP will be implemented to minimize the construction-related delays and inconvenience for travelers, residents, and businesses in the project area.	EIR/EA (PARK-1)									
2	Construction Noise. To limit noise during nighttime construction, Caltrans would follow Standard Specifications Section 14-8.02 (Caltrans 2018b), which specifies that construction activities between 9 PM and 6 AM are not to exceed 86 dBA Lmax at a distance of 50 feet from the project site.	EIR/EA (PARK-2)									
3	Construction Noise in the City of San Marcos. Construction activities shall be limited to between the hours of 7 AM and 6 PM on Monday through Friday, and between 8 AM and 5 PM on Saturdays, as set forth in the City of San Marcos Municipal Code (17.08.080).	EIR/EA (PARK-3)									
	Community Character and Cohesion	.	.	.	.	.	.	.	.	.	.
4	Where acquisition and relocation are unavoidable, provisions of the Uniform Act and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by USDOT (on March 2, 1989). An appraisal of the affected property would be obtained, and an offer for the full appraisal would be made.	EIR/EA (COM-1)									
5	During the duration of project construction, a Transportation Management Plan (TMP) would be implemented to minimize the construction-related delays and inconvenience for travelers, residents, and businesses in the project area.	EIR/EA (COM-2)									
6	Construction Noise. To limit noise during nighttime construction, Caltrans would follow Standard Specifications Section 14-8.02 (Caltrans 2018b), which specifies that construction activities between 9 PM and 6 AM are not to exceed 86 dBA Lmax at a distance of 50 feet from the job site.	EIR/EA (COM-3)									
7	Construction Noise for the City of San Marcos. Construction activities shall be limited to between the hours of 7 AM and 6 PM on Monday through Friday, and 8 AM and 5 PM on Saturdays, as set forth in the City of San Marcos Municipal Code (17.08.080).	EIR/EA (COM-4)									
	Relocations and Real Property Acquisition	.	.	.	.	.	.	.	.	.	.
8	Where acquisition and relocation are unavoidable, provisions of the Uniform Act and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by USDOT (on March 2, 1989). An appraisal of the affected property would be obtained, and an offer for the full appraisal would be made.	EIR/EA (RELO-1)									
9	Access to all properties for property owners and users would be maintained by the contractor during construction.	EIR/EA (RELO-2)									
	Visual/Aesthetics	.	.	.	.	.	.	.	.	.	.
10	Bridge abutments will be of the same type on all four quadrants to give widened undercrossing a symmetrical appearance.	EIR/EA (AES-1)									
11	Bridge widening will be done using box girder construction wherever possible.	EIR/EA (AES-2)									
12	Bridge girders will be similar in appearance on both sides of the bridge to produce a symmetrical appearance wherever possible.	EIR/EA (AES-3)									

ECR #s	Task and Brief Description	Reference	Responsible Branch / Staff	Timing / Phase	NSSP, SSP, Std Spec, Permit	PS&E Action Taken to Comply/Remarks	Construction Action Taken to Comply/Remarks	PS&E Task Completed		Construction Task Completed	
13	Walls and concrete barriers will include aesthetic features consistent with freeway corridor themes.	EIR/EA (AES-4)									
14	Sidewalks are provided on both sides of the street wherever possible and join existing sidewalks.	EIR/EA (AES-5)									
15	Pedestrian lighting including bridge soffit lighting will be provided at each undercrossing as recommended by District Electrical Design.	EIR/EA (AES-6)									
16	The ramp design will incorporate I-15 corridor aesthetic themes for column shape, sloped exterior girders and bridge barrier tile texture.	EIR/EA (AES-7)									
17	Ramp retaining walls will incorporate I-15 corridor aesthetic themes for wall textures (swirled plaster or MSE) and include wall caps. The MSE wall design and precast panels will look like the existing MSE walls at the Rancho Bernardo Direct Access Ramp.	EIR/EA (AES-8)									
18	Slope paving at Bridge Widening will match the color and texture of adjacent existing slope paving.	EIR/EA (AES-9)									
19	Slope paving at SR 78 will be slope paving (rock cobble) and match the Arizona River Rock slope paving at the Nordahl Road OC. or will match adjacent paving.	EIR/EA (AES-10)									
20	Beyond Gore Paving and Paved Narrow Areas shall be integrally colored tan concrete with an exposed aggregate finish or broom finish. The concrete color will be Davis Colors: Palomino #5447; Scofield Colors: Sombrero Buff #C-25; or Solomon Colors: #288 Straw.	EIR/EA (AES-11)									
21	Narrow unpaved areas near curb ramps and sidewalks will be paved with mortared cobbles or pebbles (Rock Blanket). The cobble or pebbles shall resemble the colors of Arizona River Rock.	EIR/EA (AES-12)									
22	Sound wall design will be visually compatible with the surrounding community. Architectural detailing such as pilasters, wall caps, interesting block patterns, and curved wall layouts will be used to add visual interest and reduce the apparent height of the walls. Sound wall blocks will be different sizes and textures such as 8 x 8 x 16 split face and 10 x 8 x 8 smooth blocks with a 10 x 4 x 16 smooth cap block. Block color will be "Mission" by RCP Block & Brick, "Otay Brown" by Orco Block, "Dusty Brown" by Angelus Block or equal.	EIR/EA (AES-13)									
23	Landscaped Sound Berms: Sound barriers will consist of landscaped berms wherever possible. Landscaped berms are the preferred visual mitigation for sound barriers and are more visually compatible with land uses adjacent to the freeway.	EIR/EA (AES-14)									
24	Sound berm/wall combinations: This barrier configuration is preferable where a tall retaining wall at the toe of slope will create a visual impact to an adjacent property. To be effective, this option should incorporate a berm with a 2:1 slope on the freeway side that is 6-feet high (minimum). This size berm should allow enough space to provide screening shrubs in front of the wall.	EIR/EA (AES-15)									
25	Sound wall landscape buffers: In cases where berms are entirely unfeasible, soundwalls should incorporate planting on both sides. In some cases, retaining walls and/or a concrete barrier at the edge of shoulder may be needed to provide the required planting space.	EIR/EA (AES-16)									
26	Sound wall planting pockets: Where right-of-way is too narrow to employ the configurations listed above, a minimum 5-feet wide planting area should be provided between the back of the freeway barrier and the face of wall. Sound wall planter pockets are proposed at S745 where space allows.	EIR/EA (AES-17)									
27	Noise wall/barrier setbacks: In areas too narrow to place a planting pocket, the sound wall should be recessed behind the face of barrier at a sufficient distance to allow architectural features to be included on the face of the sound wall. Avoid placing a noise wall directly on top of a concrete barrier where possible.	EIR/EA (AES-18)									
28	Transparent noise walls on private property: In situations where noise receptors are located above the elevation of the freeway, transparent soundwalls located at the top of slope on the ROW line or on private property will be used if the benefited property owner agrees to maintain wall surfaces.	EIR/EA (AES-19)									

ECR #s	Task and Brief Description	Reference	Responsible Branch / Staff	Timing / Phase	NSSP, SSP, Std Spec, Permit	PS&E Action Taken to Comply/Remarks	Construction Action Taken to Comply/Remarks	PS&E Task Completed		Construction Task Completed	
29	Architectural surface treatment: Walls and concrete barriers will incorporate Corridor Theme architectural features such as textures, pilasters, and caps. The SR-78 retaining wall theme is based on existing retaining walls at E. Barham Drive specifically Dry Stack Rock Texture (aka Chesterfield Dry Stack) on wall and barrier, 4'-wide pilasters and a wall cap. The I-15 retaining wall theme is based on existing walls at I-15 in Escondido specifically Swirled Plaster Texture on walls, 4'-wide buttress pilasters with buttress cap, and 9" wall cap. Concrete barriers on top of I-15 walls have tile texture with a bullnose cap. At Nordahl Road, handrailing on barrier at back of sidewalks shall match the design of the existing handrailing at the corner of Nordahl and the onramp to EB SR-78.	EIR/EA (AES-20)									
30	Terrain contoured retaining walls in cut sections: Retaining walls that follow the contours of the topography and maintain a constant elevation at the top of wall will be used where appropriate. Wall layouts and profiles should be composed of long radius curves, with no tangents or points of intersection.	EIR/EA (AES-21)									
31	Mid-Slope retaining walls in cut sections: Retaining walls should be located at mid slope wherever possible in cut sections to provide a buffer area for landscape screening between the wall and the freeway.	EIR/EA (AES-22)									
32	Top-of-Slope retaining walls in fill sections: Retaining walls should be located at the top of slope wherever possible in fill sections to provide a buffer area for landscape screening between the wall and the community.	EIR/EA (AES-23)									
33	Retaining wall/barrier planting pockets: where retaining walls must be placed close to the traveled way, space should be reserved between the wall and the safety barrier to include a 5' wide planting pocket for vine and shrub plantings. At constrained areas, the minimum planter pocket width for vine plantings is 3 feet between the back of barrier and retaining wall layout line.	EIR/EA (AES-24)									
34	Retaining wall/barrier setbacks: In areas too narrow for a planting pocket, the retaining wall should be recessed behind the face of barrier at a sufficient distance to allow architectural features such as pilasters on the face of the retaining wall.	EIR/EA (AES-25)									
35	Slopes will be graded 1:2 or flatter to support planting and irrigation. Steeper cut slopes may be possible if they are stepped and contain benches wide enough to accept plants from 15-gallon containers. Steeper fill slopes may be possible if GRE (geosynthetic reinforced embankment) is used.	EIR/EA (AES-26)									
36	Grading will utilize techniques such as slope rounding to approximate the appearance of natural topography.	EIR/EA (AES-27)									
37	Berms will be used where space allows to provide visual interest or to screen unsightly views	EIR/EA (AES-28)									
38	New concrete headwalls, channels, ditches, and aprons will be colored tan.	EIR/EA (AES-29)									
39	Detention basins and biofiltration swales shall appear as natural landscape features (ponds or streambeds). Swales will be sodded with irrigated native grass sod.	EIR/EA (AES-30)									
40	Retaining walls and soundwalls near ROW boundaries shall be placed in such a way that an additional access control fence will not be needed. The "dead" spaces that occur between walls and fences should be avoided.	EIR/EA (AES-31)									
41	Provide trees for shade within parkways or on adjacent properties along roadways.	EIR/EA (AES-32)									
42	Where space allows, provide buffers to separate pedestrians and cyclists from moving vehicles. Buffers could be landscaped or paved with enhanced materials such as mortared rock cobble (rock blanket), rock mulches, or colored and textured concrete.	EIR/EA (AES-33)									
43	Provide wayfinding signage to show distance to key destinations including the Inland Rail Trail Regional Bikeway. Project wayfinding signage could incorporate the Inland Rail Trail Logo if SANDAG concurs.	EIR/EA (AES-34)									

ECR #s	Task and Brief Description	Reference	Responsible Branch / Staff	Timing / Phase	NSSP, SSP, Std Spec, Permit	PS&E Action Taken to Comply/Remarks	Construction Action Taken to Comply/Remarks	PS&E Task Completed		Construction Task Completed	
44	Plantings will be sustainable, drought resistant, non-invasive and adapted to the local climate and rainfall patterns. Trees shall be planted in appropriate locations and densities with consideration of safety and maintenance. Highway planting shall be predominantly California native plant material and ornamental species adapted to a Mediterranean climate. Highway planting shall consist of trees, shrubs, vines, groundcover and hydroseeding. Seeding with CA natives or mulches may be used in place of groundcover as determined by District Landscape Architect. Steep areas of cut in rock will be hydroseeded with a CA native seed mix instead of planting. Vines will be planted on sound walls, retaining walls and chain link fencing where space allows. The plant and seed species will be approved by the District Landscape Architect. Revegetated areas adjacent to native habitat will be designed in consultation with the district biologist. Landscaping and habitat restoration areas will be irrigated with recycled water wherever possible. AES-36: Loss of shrubs and ground cover along the edge of freeway shall be mitigated by creating a shrub planting area between a concrete barrier and a wall or fence where space allows.	EIR/EA (AES-35)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
45	Loss of shrubs and ground cover along the edge of freeway shall be mitigated by creating a shrub planting area between a concrete barrier and a wall or fence where space allows.	EIR/EA (AES-36)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
46	A concrete barrier topped with a chain link railing (CL-Type 7) will be placed at the edge of pavement at EB SR 78 east of Nordahl Road. (KV #4), and between EB SR 78 and East Carmel Street. The fence will be planted with vines to screen undesirable offsite views. Vines will be planted where space allows. An existing example of a planted barrier with chain link railing is at the EB onramp from Via Vera Cruz above Grand Avenue in San Marcos.	EIR/EA (AES-37)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
47	Street trees in Caltrans right of way will be planted where space allows and only if the city agrees to maintenance.	EIR/EA (AES-38)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
48	Landscaping in City of San Marcos right of way for the Barham/Woodland improvements will be coordinated with the City. Plant species and landscape area treatments will be coordinated with the City. Landscaping will be drought-resistant, sustainable and must be irrigated by water provided by the City. Raised center medians will be paved with colored stamped concrete, mortared rock cobble or planted in consultation with the City. The parkway between the sidewalk and curb will be covered with rock mulches, decomposed granite or rock cobble. Street trees and plants will be planted if the City agrees to providing water and maintenance after the plant establishment period. Street trees must be irrigated with a bubbler system.	EIR/EA (AES-39)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
49	Where space allows, landscaping will be used for screening unsightly adjacent land uses while protecting views to major landmarks and natural features.	EIR/EA (AES-40)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
50	A concrete safety barrier at the edge of pavement is required to create a planter pocket in narrow areas between the freeway and proposed walls or fencing. Creating space for tree, shrub and vine plantings is required for visual mitigation. The design phase will study the use of concrete barriers at the following locations with the goal of creating planter pockets to the extent possible: For WB SR-78: from the I-15 connector ramp to Nordahl Rd. (Sta 849- 880); from Nordahl Rd to soundwall S825 (Sta 830-847); between walls (Sta 802-807); along the offramp to Woodland Pkwy and Sta 745-765. For EB SR-78: Sta 806-812 and Sta 840-844.	EIR/EA (AES-41)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
51	Trees removed by the project will be replanted at a 2:1 replacement ratio. Tree replanting will occur within the project limits where space allows.	EIR/EA (AES-42)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
52	Protect vegetation outside of the grading limits and contractor use areas by designating these areas as “Landscape Protection Areas”.	EIR/EA (AES-43)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
53	No equipment, material storage, or vehicles are allowed under the dripline of trees outside of the grading limits.	EIR/EA (AES-44)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
54	Avoid trenching under tree canopies to preserve existing trees.	EIR/EA (AES-45)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
55	Contractor use areas shall be located and designed to preserve trees. Plans shall show “protected” trees as a single tree or group of trees. The “protected” tree location and canopy shall be based on survey plans.	EIR/EA (AES-46)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank

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56	Clearly mark the limits of “Landscape Protection Areas” and “Protected Trees” with a temporary protection fence using ropes and stakes to prevent contractor access.	EIR/EA (AES-47)									
	Cultural Resources	.	.	.	.	.	.	.	.	.	.
57	If cultural materials are discovered during construction, all earthmoving activity within 60 feet of the discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.	EIR/EA (CR-1)									
58	If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the county coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the NAHC, which would then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains would contact the District 11 Native American Coordinator so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC Section 5097.98 are to be followed as applicable.	EIR/EA (CR-2)									
59	The establishment of ESAs shall protect elements of the resource in place for the duration of the Project. The ESAs would be marked on Plans and delineated in the field by an Archaeologist and Native American Monitor.	EIR/EA (CR-3)									
60	Archaeological Monitor(s) as assigned by Caltrans and Native American Monitor(s) shall monitor all ground disturbing construction related activities within the AMAs established for the project.	EIR/EA (CR-4)									
61	Controlled grading in shallow lifts as field conditions warrant and in coordination with the Resident Engineer shall be required in the cut bank area within the AMA to allow adequate Archaeological Monitoring within the AMA.	EIR/EA (CR-5)									
62	Cultural Resources Sensitivity Training shall be required for all personnel working on the project during construction. The Archaeological Monitor assigned by Caltrans would deliver this training. Materials for the training would be provided by Caltrans in the event the Archaeological Monitor is not available to deliver training.	EIR/EA (CR-6)									
	Water Quality and Stormwater Runoff										
63	The project has incorporated storm drain systems to facilitate meeting water quality requirements and for stormwater management, which would minimize erosion and degradation of habitat downstream of the bridge.	EIR/EA (WQ-1)									
64	The limits of grading and temporary work areas would be demarcated with construction exclusion fencing for all areas of natural communities of special concern to avoid unintentional encroachment into these sensitive areas. Signage would be posted identifying the excluded areas as ESAs.	EIR/EA (WQ-2)									
65	Staging/storage areas for construction equipment and materials would be located away from streams and drainages and no equipment maintenance should be performed near these areas to minimize the potential for pollution runoff. Soils from construction grading would also be stockpiled away from riparian areas to minimize potential erosion and sedimentation into the waterways.	EIR/EA (WQ-3)									
66	Spoils, trash, or any debris would be removed offsite to an approved disposal facility.	EIR/EA (WQ-4)									
67	Standard fugitive dust BMPs, e.g., a water truck, are recommended to reduce effects of construction-generated erosion and sedimentation into the adjacent ESAs.	EIR/EA (WQ-5)									
68	Where applicable, implement all relevant BMPs as required by a Storm Water Pollution Prevention Plan and the NPDES.	EIR/EA (WQ-6)									

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69	BMPs would be implemented to ensure invasive plant material is not spread from the project site to other areas by disposal off-site or by tracking seed on equipment, clothing, and shoes. Equipment/material imported from an area of invasive plants must be identified and measures implemented to prevent importation and spreading of nonnative plant material within the project site. All construction equipment would be cleaned with water to remove dirt, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds before arriving to and leaving the project site. Weeds removed would be appropriately bagged and disposed of in a sanitary landfill.	EIR/EA (WQ-7)									
Paleontology		.	.	.	.	.	.	.	.	.	.
70	A qualified paleontologist would attend the Project's pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of San Diego County, California, and who has worked as a paleontological mitigation project supervisor in the region for at least one year.	EIR/EA (PALEO-1)									
71	Prior to the start of construction, the qualified paleontologist or qualified paleontological monitor shall present a training workshop on paleontological resources ("tailgate meeting") to ensure that all earth excavation personnel understand paleontological monitoring requirements, the roles and responsibilities of paleontological monitors, and the appropriate action to be taken in the event of a discovery of paleontological resources. A qualified paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.	EIR/EA (PALEO-2)									
72	A paleontological monitor, under the direction of a qualified paleontologist, would be on site on a full-time basis during the original cutting of previously undisturbed deposits of high sensitivity paleontological resources to inspect exposures for contained fossils. As grading progresses, the qualified paleontologist and paleontological monitor would have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources is lower than anticipated.	EIR/EA (PALEO-3)									
73	During the monitoring and recovery phases of the PMP, the qualified paleontologist and/or paleontological monitor would also routinely collect stratigraphic data such as lithology, the vertical and lateral extent of strata, the nature of upper and lower contacts, and the taphonomic character of exposed strata (i.e., the study of decaying organisms over time and how they become fossilized). Collection of such data is critical for providing a stratigraphic context for any recovered fossils.	EIR/EA (PALEO-4)									
74	When fossils are discovered, the paleontologist (or paleontological monitor) would recover them appropriately. In most cases, fossil salvage can be completed in a relatively short period of time, although some fossil specimens (such as a complete large mammal skeleton) may require a more extended salvage period. In these instances, the paleontologist (or paleontological monitor) would be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovering of small fossil remains, such as isolated mammal teeth, it may also be necessary to set up a screen washing operation on the site.	EIR/EA (PALEO-5)									
75	Fossil remains collected during monitoring and salvage would be cleaned (removed of extraneous enclosing sedimentary rock material), repaired (consolidation of fragile fossils and gluing together broken pieces), sorted (separating fossils of the different species), and catalogued (scientific identification of species, assignment of inventory tracking numbers, and recordation of these numbers in a computerized collection database) as part of the mitigation process.	EIR/EA (PALEO-6)									
76	A final summary report would be completed that outlines the results of the mitigation program. This report would include discussions of the methods used, stratigraphic section(s) exposed and documented, fossils collected and curated, and significance of recovered fossils.	EIR/EA (PALEO-7)									
Hazardous Waste/Materials		.	.	.	.	.	.	.	.	.	.
77	If any discolored, odorous or compromised soils are encountered during excavation, they shall be tested and removed and disposed of per regulatory requirements.	EIR/EA (HW-1)									

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78	Groundwater from dewatering of excavations would be stored in Baker tanks during construction activities and characterized to determine the appropriate treatment requirements for discharge and disposal. The extracted groundwater shall be collected and managed for disposal/treatment in compliance with local and state regulations.	EIR/EA (HW-2)									
79	All loose and peeling lead-based paints and asbestos containing material shall be removed by a certified contractor(s) in accordance with local, state, and federal requirements. All other hazardous materials would be removed from structures in accordance with Cal/OSHA regulations.	EIR/EA (HW-3)									
80	Asphalt concrete and Portland cement concrete grindings shall be reused in accordance with the San Diego Regional Water Quality Control Board (SDRWQCB) guidance to protect water quality or transported off-site for recycling or disposal.	EIR/EA (HW-4)									
81	Hazardous Structure Material Surveys would be conducted for asbestos-containing material, lead-based paint, treated-wood waste, and polychlorinated biphenyls.	EIR/EA (HW-5)									
82	A Lead Compliance Plan and Asbestos Compliance Plan would be prepared by the contractor prior to the start of the project construction.	EIR/EA (HW-6)									
	Air Quality	.	.	.	.	.	.	.	.	.	.
83	Implement Construction Best Management Practices for Fugitive Dust• Use fugitive dust control measures to reduce generation from exposed surfaces during construction, as specified in SDAPCD Rule 55 (SDAPCD 2009). SDAPCD Rule 55 includes various requirements, including preventing visible dust beyond the property line for more than 3 minutes in any 60-minute period, applying dust suppressants, removing all track-out/carry-out dust at the conclusion of each work day Compliance with these regulatory requirements is a performance standard for mitigation of construction activity particulate emissions. Reductions in fugitive dust emissions range from 40 to 80 percent for minimizing track-out to 90 percent for use of tarps or cargo covering when transporting material (SCAQMD 2007, WRAP 2006).• Use additional fugitive dust control measures such as watering or application of dust suppressants to reduce the generation of fugitive dust at active construction sites. Reductions in fugitive dust emissions range from 10 to 74 percent for watering of unpaved surfaces to 84 percent for use of dust suppressants (WRAP 2006). • Implement controls on haul trucks to reduce emissions from haul trucks transporting soil, sand, or other loose material off site. Reductions in fugitive dust emissions are estimated at 91 percent for use of tarps or cargo covering when transporting material (SCAQMD 2007).• Remove visible mud or dirt track-out onto adjacent public roads. Reductions in fugitive dust emissions range from 40 to 80 percent for minimizing track-out (WRAP 2006).• Limit vehicle speeds on unpaved surfaces during construction to 15 mph. Reductions in fugitive dust emissions from unpaved surfaces are estimated at 57 percent (WRAP 2006).• Suspend excavation, grading, and/or demolition activities when average wind speeds exceed 20 mph. Reductions in fugitive dust emissions are estimated at 98 percent (WRAP 2006).• Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas. Reductions in fugitive dust emissions from wind erosion are estimated at 90 percent (WRAP 2006).• Wash all trucks and equipment, including their tires, prior to leaving the construction site. No quantitative estimate of the effectiveness of this measure is available.• Implement other site-specific fugitive dust control measures as warranted for individual construction projects for the transportation network and/or land use projects.	EIR/EA (AQ-1)									

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84	Reduce Diesel Emissions During Construction from Off-Road Equipment • Ensure off-road equipment greater than 25 horsepower (hp) that would be operating for more than 20 hours during construction meets the following requirements: - o Ensure engines are zero emissions or equipped with an CARB Level 3 Verified Diesel Emissions Control Strategy, if available for the equipment being used, unless the equipment meets EPA Tier 4 emission standards. • Monitor idling time of diesel-powered construction equipment and limit to no more than 2 minutes. • Maintain and properly tune construction equipment in accordance with the manufacturers' specifications. • Prohibit portable diesel generators and use grid power when it is available. Use propane or natural gas generators when grid power electricity is not feasible. • Use late model engines. • Use low emission diesel products. • Use alternative fuels in construction equipment. • Use engine retrofit technology to control emissions from off-road equipment.	EIR/EA (AQ-2)									
85	Reduce Diesel Emissions During Construction from On-Road Vehicles • Monitor idling time of diesel-powered trucks, and limit to no more than 2 minutes. • Provide clear signage for construction workers at all access points. • Maintain and properly tune vehicles in accordance with the manufacturers' specifications. • Ensure that construction activity deliveries are scheduled during off-peak hours (e.g., 10 a.m. to 3 p.m.) and are coordinated to consolidate truck trips. When the movement of construction materials and/or equipment impacts traffic flow, provide temporary traffic control (e.g., flag person) to improve traffic flow. • Use late model engines (2010 or new model years). • Use low emission diesel products in on-road vehicles. • Use zero emission or near-zero emission technologies or alternative fuels in on-road vehicles. • Use engine retrofit technology on on-road vehicles.	EIR/EA (AQ-3)									
	Noise and Vibration	.	.	.	.	.	.	.	.	.	.
86	All equipment shall have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.	EIR/EA (NOISE-1)									
87	Construction methods or equipment that would provide the lowest level of noise impact (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) should be used.	EIR/EA (NOISE-3)									
88	Idling equipment shall be turned off.	EIR/EA (NOISE-2)									
89	Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.	EIR/EA (NOISE-4)									
90	Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.	EIR/EA (NOISE-5)									

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91	Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment would generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).	EIR/EA (NOISE-6)									
92	Construction lay-down or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (e.g., residences).	EIR/EA (NOISE-7)									
93	Contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified Acoustical Engineer and submit it for approval. The Plan must outline noise and vibration monitoring procedures at predetermined noise and vibration sensitive sites. The Plan also must include calculated noise and vibration levels for various construction phases and mitigation measures that may be needed to meet the project specifications. The Contractor shall not start any construction work or operate any noise-generating construction equipment at the construction site before approval of the Plan. The Plan must be updated every three months or sooner if there are any changes to the construction activities.	EIR/EA (NOISE-8)									
94	Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).	EIR/EA (VIB-1)									
95	The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a preconstruction building inspection to document the preconstruction condition of that structure.	EIR/EA (VIB-2)									
96	Conduct vibration monitoring during vibration-intensive activities.	EIR/EA (VIB-3)									
Biological Resources		.	.	.	.	.	.	.	.	.	.
97	Permanent impacts to a total of 7 acres of gnatcatcher occupied coastal sage scrub (including disturbed) habitat and 0.1 acre of southern riparian scrub at Barham Drive would be mitigated by debiting 8 acres of coastal sage scrub credits and 0.2 acre of riparian scrub credit from the gnatcatcher occupied Sage Hill Mitigation Bank and Ranch San Diego Mitigation Bank, respectively. Documentation that credits have be debited would be provided to the CFWO prior to the commencement of vegetation removal and project construction.	EIR/EA (CM-1)									
98	Permanent impacts to 0.4 acre of monarch occupied disturbed valley and foothill grassland habitat would be offset at a 2:1 mitigation ratio by debiting 0.8 acres of native grassland habitat at the Rancho San Diego Mitigation Bank. Documentation that the habitat has been conserved would be provided to the CFWO prior to the commencement of vegetation removal and project construction. Temporary impacts to 2.6 acres of disturbed valley and foothill grassland would be restored onsite to valley and foothill grassland at a 1:1 ratio.	EIR/EA (CM-2)									
99	All narrow-leaf milkweed outside and adjacent to the construction limits would be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs would be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris would be allowed within the ESAs. Temporary ESA fencing and flagging would be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. Caltrans would submit to the CFWO, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans would include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. Field maps indicating the location of temporary ESA fencing and/or staking would also be provided. If work occurs beyond the fenced or demarcated limits of impact, all work would cease until the problem has been remedied to the satisfaction of the CFWO. Temporary ESA fencing and markers would be maintained in good repair until the completion of project work and removed upon completion of project work.	EIR/EA (CM-3)									

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100	All vegetation clearing at Barham Drive would occur from September 1 to February 14 to avoid the gnatcatcher breeding season (or sooner if a CFWO-approved project biologist demonstrates to the satisfaction of the CFWO that all nesting is complete).	EIR/EA (CM-4)									
101	A biologist (Project Biologist) approved by the CFWO would be on site during all vegetation clearing at Barham Drive to monitor compliance with all CMs. Caltrans would submit the biologist's name, contact information, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts. The Project Biologist would be provided with a copy of this consultation. The Project Biologist would be available during pre-construction and construction phases to address protection of sensitive biological resources, monitor ongoing work, and maintain communications with construction personnel to facilitate the appropriate and lawful management of issues relating to biological resources. The project biologist would perform the following duties: a. For vegetation clearing outside the gnatcatcher breeding season, perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers in the project impact footprint. Surveys would begin a maximum of 30 days prior to performing vegetation clearing, and one survey would be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the project impact footprint, the project biologist would direct workers to begin initial vegetation clearing in an area away from gnatcatchers. In addition, the project biologist would passively flush birds toward areas of appropriate vegetation that is to be avoided. It would be the responsibility of the project biologist to ensure gnatcatchers would not be injured or killed by initial vegetation clearing/grubbing. The project biologist would record the number and map the location of gnatcatchers disturbed by initial vegetation clearing/grubbing or construction and report these numbers and locations to the CFWO within 24 hours. b. Train all contractors and construction personnel a maximum of 14 days prior to project construction on the biological resources associated with the projects and ensure that training is implemented by construction personnel. At a minimum, training would include: (i) the purpose for resource protection; (ii) a description of the gnatcatcher and its habitat; (iii) the conservation measures given in the biological opinion that should be implemented during project construction to conserve the sensitive resources; including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); (iv) best management practices in CM 5; (v) the protocol to resolve conflicts that may arise at any time during the construction process; and (vi) the general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with noncompliance with the Act. c. Submit monthly email reports (including photographs of impact areas) to the CFWO during vegetation clearing. The monthly reports would document that authorized impacts were not exceeded and general compliance with all CMs. The reports would also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports would specify the number, locations and sex of gnatcatchers (if observed), their observed behavior (especially in relation to project activities), and any remedial measures employed to avoid and minimize impacts to gnatcatchers. Raw field notes should be available upon request by the CFWO. d. Submit a final report to the CFWO within 60 days of project completion or maintenance including as-built construction drawings with an overlay of habitat that was impacted and avoided; photographs of impact areas and adjacent habitat that was to be avoided; other relevant documentation that authorized impacts were not exceeded and that general compliance with all CMs was achieved. The report would also summarize the number, locations, and sex of gnatcatchers (if observed); their observed behavior (especially in relation to project activities); and any remedial measures employed to avoid and minimize impacts to gnatcatcher. Raw field notes should be available upon request by the CFWO.	EIR/EA (CM-5)									

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102	Caltrans would submit a valley and foothill grassland restoration plan to the Service for approval within 30 days of initiating project impacts. This plan would include the following information and conditions:a. All final specifications and topographic-based planting and irrigation plans for the restoration site. The restoration site would be prepared for planting by decompacting the topsoil in a way that mimics natural grassland habitat topsoil to the maximum extent practicable while maintaining slope stability. Any salvaged topsoil would be redistributed upon completion of decompaction. Salvaged soil is not recommended in areas that have a high component of non-native species (i.e., disturbed habitat). If possible, seed collection would occur within impacted areas prior to vegetation clearing. These seeds would be used as a seed source for the restoration and enhancement areas to the maximum extent practicable. Planting and irrigation would not be installed until the Service has approved of the restoration site preparation. All plantings would be installed in a way that mimics natural plant distribution, and not in rows.b. Planting palettes (plant species, size, and number/acre) and seed mix (plant species and pounds/acre). Seed mix would include narrow-leaf milkweed and native monarch nectar plants. Unless otherwise approved by the Service, only locally native species (no cultivars) obtained within San Diego County available from as close to the project area as possible would be used. The source and proof of local origin of all plant material and seed would be provided.c. Container plant survival would be 100 percent of the initial plantings for the duration of the plant establishment period (PEP). All dead plants documented within the PEP would be replaced.d. A final implementation schedule that indicates when all habitat impacts, as well as habitat restoration and enhancement grading, planting, and/or irrigation would begin and end. Necessary site preparation and planting would be completed after receiving Service approval of site grading and preparation. e. Three years of success criteria for valley and foothill grassland restoration and enhancement areas including: minimum combined native grasses and forb cover is at least 60 percent relative cover; evidence of natural recruitment of multiple species; 0 percent coverage for Cal-IPC List A and B species, and no more than 25 percent coverage for other exotic/weed species.f. A minimum 3 years of maintenance and monitoring of habitat restoration and enhancement areas, unless success criteria are met earlier, and all artificial water supply has been off for at least 2 years.g. A qualitative and quantitative monitoring plan with a map of proposed sampling locations. Photo points would be used for qualitative monitoring and a stratified-random sampling design would be used for all quantitative monitoring. Monitoring would include protocol surveys for gnatcatcher.h. Contingency measures in the event of habitat restoration or enhancement failure.i. Annual maintenance and monitoring reports would be submitted to the Agencies no later than December 1 of each year.	EIR/EA (CM-6)									
103	During project construction all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's Invasive Plant Inventory list (Cal-IPC 2006) found growing within the project impact area would be identified and removed at least once a month. Special care would be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction would be properly disposed of to prevent spread into areas outside of the construction area. All heavy equipment would be washed and cleaned of debris prior to entering a new area to minimize the spread of invasive weeds.	EIR/EA (CM-7)									
104	Caltrans would ensure that the following best management practices are implemented during project construction or maintenance in order to minimize potential impacts to the gnatcatcher: a. Employees would strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint. b. To avoid attracting predators of the gnatcatcher, the project site would be kept as clean of debris as possible. All food related trash items would be enclosed in sealed containers and regularly removed from the site. Pets of project personnel would not be allowed on the project site. c. Impacts from fugitive dust would be minimized through watering and other appropriate measures. d. The project site would be kept as clear of debris as possible. All food-related trash shall be enclosed in sealed wildlife-proof containers and removed from the site daily. e. All construction-related debris, excess materials, and building materials shall be removed from the Project site for disposal at an authorized landfill or other disposal site in compliance with federal, state, and local laws and regulations.	EIR/EA (CM-8)									

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105	CSS habitat outside of the construction area would be designated as an environmentally sensitive area (ESA) on the project plans and protected by installing temporary ESA fencing, if needed.	EIR/EA (CSS-1)									
106	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be outside of areas with CSS habitat. Any debris or runoff from the construction would be directed away from CSS habitat.	EIR/EA (CSS-2)									
107	Appropriate erosion and siltation controls would be installed prior to construction and maintained until construction completion.	EIR/EA (CSS-3)									
108	Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate measures.	EIR/EA (CSS-4)									
109	The project site would be kept as clean of debris as possible.	EIR/EA (CSS-5)									
110	Compensatory mitigation would be required for permanent impacts to 1 acre of CSS and 7 acres of disturbed CSS. CSS habitat at the Sage Hill Mitigation Bank would be debited at 8 acres to mitigate at a 2:1 ratio for the permanent impacts to CSS and a 1:1 ratio for permanent impacts to disturbed CSS.	EIR/EA (CSS-6)									
111	Temporary impacts to 2.6 acres of valley and foothill grassland habitat from the project would be offset by restoring the temporarily impacted areas to pre-construction conditions. Caltrans proposes the native seed mix in Table 2-30 to be applied to temporarily impacted areas. Temporary impact areas would be seeded as soon as possible following regrading after completion of construction to prevent encroachment by nonnative plants.	EIR/EA (VFG-1)									
112	Valley and foothill grassland habitat outside of the construction area would be designated as an environmentally sensitive area (ESA) on the project plans and protected by installing temporary ESA fencing, if needed.	EIR/EA (VFG-2)									
113	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be outside of areas with valley and foothill grassland habitat. Any debris or runoff from the construction would be directed away from valley and foothill grassland habitat.	EIR/EA (VFG-3)									
114	Appropriate erosion and siltation controls would be installed prior to construction and maintained until construction completion.	EIR/EA (VFG-4)									
115	Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate measures.	EIR/EA (VFG-5)									
116	The project site would be kept as clean of debris as possible.	EIR/EA (VFG-6)									
117	Compensatory mitigation would be required for permanent impacts to 0.4 acre of valley and foothill grassland. Native grassland habitat at the Rancho San Diego Mitigation Bank would be debited at 0.8 acre to mitigate at a 2:1 ratio for the permanent impacts to valley and foothill grassland.	EIR/EA (VFG-7)									
118	Southern riparian scrub habitat outside of the construction area would be designated as an ESA on the project plans and protected by installing temporary ESA fencing, if needed.	EIR/EA (SRS-1)									
119	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be outside of areas with southern riparian scrub habitat. Any debris or runoff from the construction would be directed away from southern riparian scrub habitat.	EIR/EA (SRS-2)									
120	Appropriate erosion and siltation controls would be installed prior to construction and maintained until construction completion.	EIR/EA (SRS-3)									
121	Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate measures.	EIR/EA (SRS-4)									
122	The project site would be kept as clean of debris as possible.	EIR/EA (SRS-5)									

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123	Compensatory mitigation would be required for permanent impacts to 0.1 acre of southern riparian scrub. Riparian scrub habitat at the Rancho San Diego Mitigation Bank would be debited at 0.2 acre to mitigate at a 2:1 ratio for the permanent impacts to southern riparian scrub.	EIR/EA (SRS-6)									
124	Temporary impacts to jurisdictional waters would be mitigated by restoring would be offset by restoring the temporarily impacted areas to pre-construction conditions.	EIR/EA (WATER-1)									
125	The temporary construction staging areas, access roads, and equipment storage shall be strategically placed at a minimum of 100 feet to avoid impacts to jurisdictional waters.	EIR/EA (WATER-2)									
126	The jurisdictional water features outside of the work areas shall be designated as an ESA on the project plans.	EIR/EA (WATER-3)									
127	If needed, the ESA would be temporarily fenced using ESA fencing or lathe with flagging tape to exclude construction activities from the area. The Project Biologist would be onsite during the staking to identify the boundaries of the jurisdictional waters and shall supervise the placement of ESA exclusion fencing. The temporary fences around the ESAs, if needed, shall be installed as the first order of work. The locations of the ESA exclusion fence would be documented on construction maps.	EIR/EA (WATER-4)									
128	A biologist (Project Biologist) approved by USFWS would be onsite: a) during all vegetation clearing and grubbing; and b) weekly during project construction within 500 feet of CAGN habitat to ensure compliance with all conservation measures. The Project Biologist would be familiar with CAGN and their habitat and would have experience monitoring this species. Caltrans would submit the name, address, telephone number, and work schedule of the Project Biologist on the project to USFWS at least 15 working days prior to initiating project impacts. The Project Biologist would have a copy of the USFWS Biological Opinion during project construction.	EIR/EA (CAGN-1)									
129	To the extent possible, vegetation removal at the Build Alternative would occur outside of the CAGN nesting season, which occurs between February 15 and August 31. If activities occur during the nesting season, a mandatory preconstruction survey by a qualified biologist would be conducted to ensure that no nesting CAGN is present in the proposed work area. Should a CAGN nest site be located, appropriate measures may include designation of the location as an ESA and delaying or restricting project activities until nesting and fledging is completed. If active nests are identified within 500 feet of noise generating construction activities and construction noise exceeds ambient noise levels, measures would be implemented to reduce noise to ambient levels at the nest location.	EIR/EA (CAGN-2)									
130	CAGN habitat outside of the construction area would be designated as an ESA on the project plans and protected by installing temporary ESA fencing, if necessary. Construction personnel would be instructed to take care to avoid effects from activities including, but not limited to, trampling during construction activities and herbicide drift during restoration activities to areas with suitable CAGN habitat. Work would not occur beyond the fenced or demarcated limits of impact. Temporary construction fencing and markers would be removed upon project completion.	EIR/EA (CAGN-3)									
131	During project construction, all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory list found growing within the project ROW would be removed. Weed removal would be conducted within the project ROW as needed during the construction and restoration period. Special care would be taken during transport, use, and disposal of soils containing invasive weed seeds, and all weedy vegetation removed during construction would be properly disposed of to prevent spread into areas outside of the construction area.	EIR/EA (CAGN-4)									
132	Appropriate erosion and siltation controls would be installed prior to the onset of vegetation clearing and be maintained in good repair until the completion of project construction. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, would be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.	EIR/EA (CAGN-5)									

ECR #s	Task and Brief Description	Reference	Responsible Branch / Staff	Timing / Phase	NSSP, SSP, Std Spec, Permit	PS&E Action Taken to Comply/Remarks	Construction Action Taken to Comply/Remarks	PS&E Task Completed		Construction Task Completed	
133	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would be restricted to designated areas that are outside of habitat suitable for CAGN and are a minimum of 100 feet from drainages and associated plant communities.	EIR/EA (CAGN-6)									
134	Impacts from fugitive dust would be avoided and minimized through watering, monitoring, and other appropriate best management practices (BMPs).	EIR/EA (CAGN-7)									
135	The project site would be kept as clean of debris as possible. All food-related trash items would be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal would be disposed of properly.	EIR/EA (CAGN-8)									
136	If fill must be borrowed from or disposed of offsite, the construction contractor would identify any necessary borrow and disposal sites and provide this information to Caltrans for review.	EIR/EA (CAGN-9)									
137	If nighttime construction is necessary, all lighting used at night (e.g., lighting of staging areas, equipment storage sites, or the roadway) would be selectively placed and directed onto the roadway or construction site and away from sensitive habitats. Light glare shields would be used to reduce the extent of illumination into sensitive habitats.	EIR/EA (CAGN-10)									
138	Project personnel would be prohibited from bringing domestic pets to construction sites to ensure that domestic pets do not disturb or depredate wildlife in adjacent habitats.	EIR/EA (CAGN-11)									
139	If shrub or tree removal is to take place during the breeding season a pre-construction breeding bird survey shall be conducted within 7 days of these activities.	EIR/EA (MTB-1)									
140	A no-disturbance buffer shall be established around any active nest or breeding pair territory to limit the impacts of construction activities. The buffer shall not be removed until after the breeding season or until after a qualified wildlife biologist determines that the young have fledged (usually late June to mid-July). The extent of these buffers shall be determined by the biologist (coordinating with USFWS and CDFW) and would depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species but is typically 100 feet.	EIR/EA (MTB-2)									
141	The take of gnatcatchers is based on the number of adult gnatcatcher pairs observed on site and the amount of gnatcatcher habitat impacted. If the take is exceeded, it would trigger reinitiation of consultation. Incidental take (IT) of gnatcatcher is exempted as follows:	EIR/EA (TE-1)									
142	One pair of gnatcatchers in the form of harm, as defined in 50 CFR § 17.3, due to the direct loss of 7.1 acres of their primary breeding, feeding, and sheltering habitat (i.e., coastal sage scrub and riparian scrub) at the project site. The amount or extent of incidental take would be exceeded if more than 7.1 acres of coastal sage scrub (7 acres) and riparian scrub (0.1 acre) are impacted or if more than one gnatcatcher pairs are observed within the impact area prior to vegetation clearing and project construction.	EIR/EA (TE-2)									
143	Special care would be taken during transport, use, and disposal of soils containing invasive weed seeds, and all weedy vegetation removed during construction would be properly disposed of to prevent spread into areas outside of the construction area.	EIR/EA (INV-1)									
144	Erosion control measures for this project shall be designed to prevent the spread of invasive plant species.	EIR/EA (INV-2)									
145	Landscaping designs for this project shall not contain invasive species in the plant selections or seed mixtures.	EIR/EA (INV-3)									

Appendix E Notice of Preparation

Notice of Preparation

Notice of Preparation

To:

From: Caltrans District 11 Attn: Ellen Renker

4050 Taylor Street, MS 242

San Diego, CA 92110

Subject: Notice of Preparation of a Draft Environmental Impact Report

Caltrans District 11 will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice or by Friday November 20th, 2020. Comments can be submitted between **Monday October 19th, 2020** and **Friday November 20th, 2020**.

In addition to comments submitted to Ellen Renker at the address listed above, comments can also be emailed to SR78@KeepSanDiegoMoving.com or by voice mail at 888-547-1161.

A Virtual Public Scoping Meeting has been scheduled for October 29th, 2020 from 5:30pm to 7:30pm. You can access the website at this link: www.KeepSanDiegoMoving.com/SR78

Project Title: Interstate 15/State Route 78 (I-15/SR 78) Managed Lanes Direct Connectors Project

Project Applicant, if any: Caltrans District 11

Date 10-16-2020

Signature 
Shay Lynn M. Harrison

Title Chief, Environmental Analysis

Telephone (619) 453-8481

Notice of Preparation – Attachment A

Title:

Interstate 15/State Route 78 (I-15/SR 78) Managed Lanes Direct Connectors Project (Project)

Purpose:

The purpose of this project is to provide a reliable transportation option that reduces travel times, encourages multi-occupant vehicle usage, and reduces GHG and air pollution. The project also aims to improve access to key employment, residential, health, and educational centers in the corridor; while supporting state and regional transportation goals of improving person throughput and reducing vehicle miles traveled.

Need:

Over the past 25 years, the corridor has experienced a substantial amount of growth in its residential, job, and housing centers. This growth coupled with a lack of travel options has placed a strain on the I-15/SR 78 interchange and local streets in the cities of San Marcos and Escondido. The lack of improved local connections, managed facilities, and travel options are affecting travel times and air pollution, which are expected to increase while person throughput and mobility decrease.

Location:

In the Cities of Escondido and San Marcos. Interstate-15 Post Miles: R30.6/R32.0;
State Route 78 Post Miles: 12.0/R16.7

Description:

Construct a direct connector (northbound I-15 to westbound SR 78 and eastbound 78 to southbound I-15) from I-15 Express Lanes and extending approximately three miles of managed lanes onto SR 78 to San Marcos Boulevard. The project will also widen and realign Barham Drive from La Moree Drive to Woodland Parkway; remove and replace the Barham Drive eastbound on-ramp; widen the Woodland Parkway undercrossing; construct a westbound auxiliary lane from on SR 78 from Nordahl Drive to Woodland Parkway/Barham Drive; realign and interchange improvements on Rancheros Drive; and construct a bicycle facility on Barham Drive and Woodland Parkway.

Alternatives: Two Build Alternatives are being considered and a No Build.

- Alternative 1: Build Proposed Project and Extend Lanes as Express Lanes
 - Lanes will operate as an extension of the I-15 Express Lanes and allow Single Occupant Vehicles (SOVs) into the facility with a distance-based fee and transponder.
- Alternative 2: Build Proposed Project and Extend Lanes as HOV/Carpool Lanes Only
 - Lanes will only allow transit/carpoolers to access the facility. No SOVs will be allowed to price into the facility.
- Alternative 3: No Build
 - None of the project components will be built

Potential environmental effects would be analyzed for the following issues:

Socioeconomics:

- Relocations (Home and Business Displacements)
- Community Character and Cohesion
- Parks and Recreational Facilities
- Consistency with State, Regional, and Local Plans and Programs
- Land Use

Cultural Resources:

- Archeological Recourses
- Historic Resources

Biological Resources:

- Resources Natural Communities
- Wetlands and Other Waters of the U.S.
- Threatened and Endangered Species
- Plant Species
- Animal Species
- Invasive Species

Cumulative and Growth

Visual/Aesthetics

Noise

Traffic and Transportation

Paleontology Resources

Air Quality and Greenhouse Gases

Utilities and Emergency Services

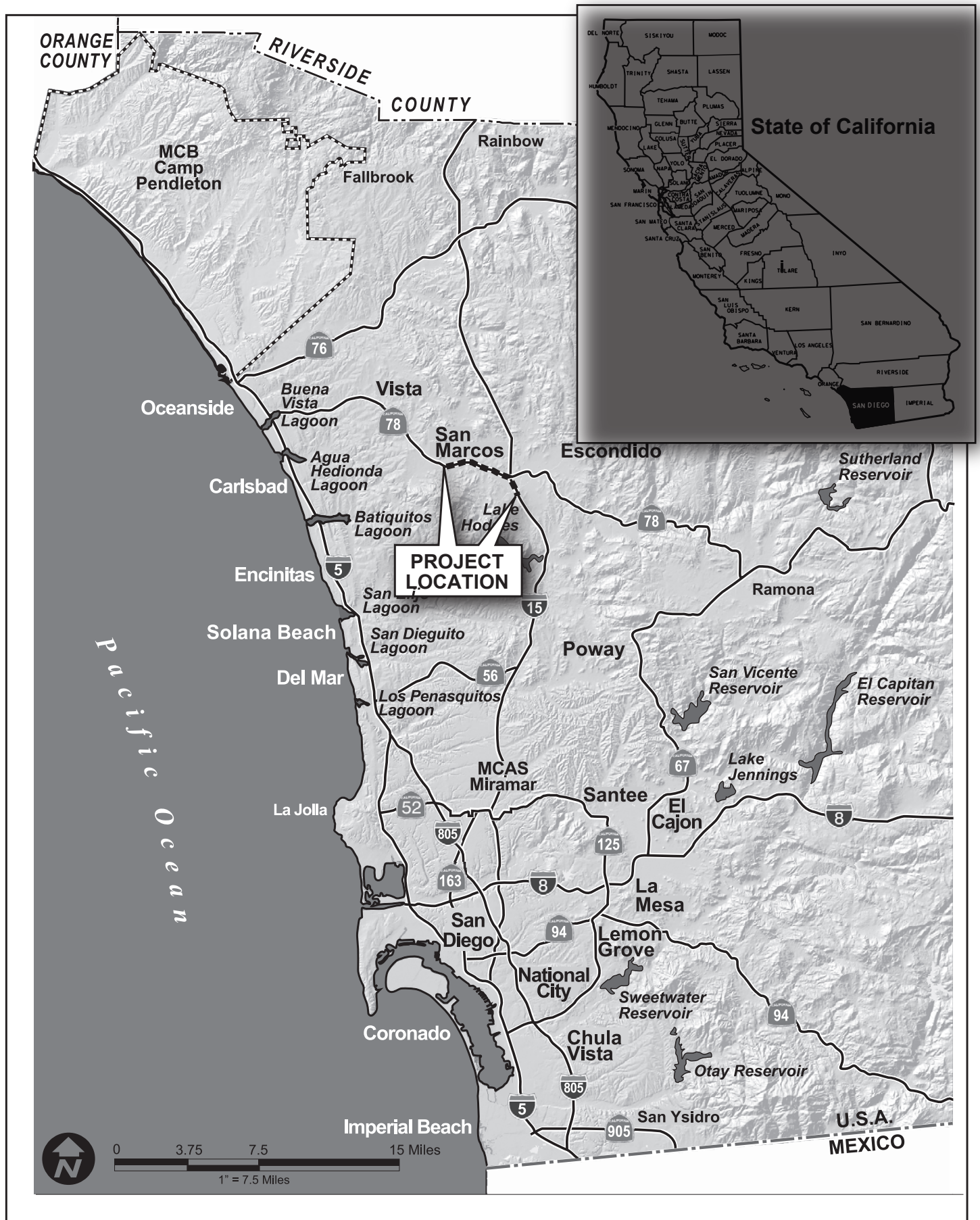
Hydrology and Floodplain

Water Quality and Stormwater Runoff

Geology and Soils

Hazardous Waste/Materials

If you have any questions regarding the proposed project and/or the public scoping process, please contact Ellen Renker at (619) 930-6763 or email ellen.renker@dot.ca.gov



**I-15/SR 78 Managed Lanes Direct Connectors Project
Location Map**

Appendix F List of Technical Studies

The following studies and/or technical analyses have been prepared and are incorporated by reference into this Environmental Impact Report/Environmental Assessment and are available upon request.

State and federal laws limit the disclosure of sensitive cultural and tribal resource information to the public. Additional information regarding confidentiality of these resources can be found in the Standard Environmental Reference Volume 2, found at: <https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-2-cultural-resources> in Section 3.4.13 and Section 5.3.6.

Air Quality Report (January 2024)

Archaeological Survey Report (October 2024)

Biological Assessment (March 2024)

Community Impact Assessment (April 2025)

Draft Relocation Impact Report (February 2025)

Environmental Site Investigation Report (January 2023)

Extended Phase I Archaeological Investigation Plan (November 2023)

Finding of No Adverse Effect Report (October 2024)

Historic Property Survey Report (May 2024)

Initial Site Assessment (December 2020)

Location Hydraulic Study (April 2025)

Natural Environment Study (December 2024)

Noise Abatement Decision Report (May 2023)

Noise Study Report (July 2022)

Paleontological Resource Assessment (January 2022)

Section 4(f) *de minimis* Determination (October 2024)

Stormwater Data Report (November 2024)

Transportation Analysis and Operation Report (January 2025)

Vehicle Miles Traveled Memorandum (August 2024)

Visual Impact Assessment (January 2025)