

Interchange Improvements at I-205 at Mountain House Parkway/International Parkway

10-SJ-205-PM 0.8/2.0

EA Number 10-1E210

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation
and the City of Tracy

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 United States Code 327 and the Memorandum of Understanding dated December 23, 2016 and executed by the Federal Highway Administration and Caltrans.

July 2020



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in San Joaquin County in California. Caltrans is the lead agency under the National Environmental Policy Act and the California Environmental Quality Act. A Categorical Exclusion will be prepared for National Environmental Policy Act compliance. The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read the document. If you would require a printed version of this document, please contact David Farris at david.farris@dot.ca.gov. The document can also be downloaded at the following website: [http:// https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects](http://https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects).
- Tell us what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via United States mail to: Jennifer Lugo, Senior Environmental Planner, Central Region Environmental, California Department of Transportation, 855 M Street, Suite 200, Fresno, California 93721.
- Submit comments via email to internationalparkwayinterchanges@dot.ca.gov.
- Submit comments by the deadline: July 30, 2020.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by Federal Highway Administration, 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 appropriated, Caltrans could design and construct all or part of the project.

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Interchange Improvements at I-205 at Mountain House Parkway/
International Parkway in San Joaquin County

INITIAL STUDY with Proposed Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation
and
the City of Tracy
Responsible Agencies: California Transportation Commission


Philip Vallejo
Environmental Office Chief, North
California Department of Transportation
CEQA Lead Agency

3-2-2020
Date

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DRAFT

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to improve the interchange at Interstate 205 at Mountain House/International Parkway between post miles 0.8 and 2.0 in the city of Tracy in San Joaquin County, California.

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

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

The proposed project would have no effect on land use, coastal zones, wild and scenic rivers, parks and recreation, timberland, growth, community character and cohesion, environmental justice, natural communities, transportation and traffic, population and housing, and minerals.

The proposed project would have no significant effect on farmland, relocation and real property, visual resources, utilities and emergency services, public services, cultural resources, tribal cultural resources, hydrology and floodplain, water quality and stormwater, geology and soils, hazards and hazardous materials, wildfire, air quality, greenhouse gas emissions, energy, noise and vibration, animal species, threatened and endangered species, and invasive species.

The proposed project would have no significantly adverse effect on paleontological resources, wetlands and other waters, and plant species because the following mitigation measures would reduce potential effects to insignificance:

- Write a Paleontological Evaluation Report and Prepare and Implement a Paleontological Mitigation Plan, if needed.
- Compensate for Loss of Wetlands.
- Mitigate for Permanent Impacts on Special-Status Plants.

Philip Vallejo
Environmental Office Chief, North
California Department of Transportation
NEPA and CEQA Lead Agency

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with the City of Tracy (City), proposes to improve the Interstate 205 at Mountain House/International Parkway Interchange (hereafter, I-205/Mountain House Parkway Interchange) between post miles 0.8 and 2.0. Increased traffic demand due to existing commercial development and planned future growth in San Joaquin County is creating the need to improve the interchange. Figures 1-1 and 1-2 show project location and project area.

Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and under the California Environmental Quality Act (CEQA).

The existing I-205/Mountain House Parkway Interchange is located near the *Cordes Ranch Specific Plan Area*. The *Cordes Ranch Specific Plan Final Environmental Impact Report* found that some specific plan area project improvements would cause a significant impact on the intersections of Mountain House Parkway and the westbound ramps of I-205, and International Parkway and the eastbound ramps of I-205. The environmental impact report therefore recommended improvements to the interchange as mitigation to reduce impacts to a less-than-significant level.

A Build and No-Build Alternative are proposed for consideration.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of this project is to reduce congestion resulting from ongoing and planned development of the *Cordes Ranch Specific Plan* and to improve local circulation.

1.2.2 Need

This project is needed to accommodate the increase in traffic demand projected as part of the planned development in the *Cordes Ranch Specific Plan Area*, elsewhere in the city of Tracy, Mountain House Community Services District, San Joaquin County, and neighboring counties.

The *Cordes Ranch Specific Plan Environmental Impact Report* concluded that traffic resulting from the specific plan development would cause a significant impact on the intersections of Mountain House Parkway and the westbound

on-ramps and off-ramps of I-205, and International Parkway and the eastbound on-ramp of I-205. The environmental impact report proposed mitigation to reduce the level of these impacts. The information provided below is based on the Traffic Operations Analysis Report prepared for this project in August 2019.

Level of service is a measure of the quality of performance of intersections and road or highway segments related to traffic flow and time delay. Letters from A to F are assigned, with “Level of Service A” being the best operation (free flowing traffic) and “Level of Service F” being the worst operation (traffic jam). State and local agencies adopt thresholds of acceptable levels of service. Caltrans and the city of Tracy identify “Level of Service D” as the minimum acceptable operations criteria for intersections and road or highway segments.

Under existing conditions, the I-205/Mountain House Parkway Interchange serves a combination of traffic to and from the *Mountain House Specific Plan* Area (located north of I-205) in San Joaquin County and the early phases of development in the *Cordes Ranch Specific Plan* Area, located south of I-205 in Tracy. Because of congestion on I-205, I-580, and the Altamont Pass to and from the San Francisco Bay Area, a significant amount of commuter traffic uses the I-205/Mountain House Parkway Interchange and Grant Line Road to bypass I-205 during the morning peak period (5 a.m. to 9 a.m.) and during the evening peak period (3 p.m. to 7 p.m.). This results in the existing interchange operating at marginal conditions with long delays for some movements during morning peak hours (see Table 1-1) and for most westbound freeway segments and ramps during morning peak hours and for most eastbound freeway segments and ramps during evening peak hours (see Table 1-2).

Table 1-1. Intersection Demand Volume Operations—Existing Conditions

Intersection (Control)—Movement	Morning Peak Hour Level of Service	Morning Peak Hour Delay (seconds)	Evening Peak Hour Level of Service	Evening Peak Hour Delay (seconds)
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Left Turn	D	51.6	B	12.2
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Through	E	55.8	-	-
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Right Turn	A	3.4	A	1.6
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Left Turn	D	43.0	C	26.7
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Through	C	20.2	B	14.6
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Through	C	27.6	B	15.8

Intersection (Control)—Movement	Morning Peak Hour Level of Service	Morning Peak Hour Delay (seconds)	Evening Peak Hour Level of Service	Evening Peak Hour Delay (seconds)
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Right Turn	A	7.3	A	3.7
Mountain House Parkway/I-205 Westbound Ramps (Signal)— Overall	C	28.1	B	11.0
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Left Turn	B	15.2	B	19.5
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Right Turn	A	7.9	A	6.5
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Through	A	4.4	A	8.6
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Right Turn	A	1.5	A	4.6
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Through	A	5.2	A	4.7
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Right	A	5.2	A	4.6
Mountain House Parkway/I-205 Eastbound Ramps (Signal)— Overall	A	5.3	A	6.5

Note: Level of service/average delay in seconds per vehicle and (volume and percent served) is reported from an average of 12 runs from SimTraffic 10.

Table 1-2. Freeway Operations—Existing Conditions

Location	Type	Morning Peak Hour Level of Service	Evening Peak Hour Level of Service
Westbound freeway from 11th Street to Mountain House Parkway	Basic ^a	D	B
Westbound Mountain House Parkway Diagonal Off-Ramp	Basic ^a	D	B
Westbound freeway from Mountain House Parkway Off-Ramp to On-Ramp	Basic	D	B
Westbound Mountain House Parkway Diagonal On-Ramp	Basic ^b	C	B
Westbound freeway from Mountain House Parkway to I-580	Basic	E	B
Eastbound freeway from I-580 to Mountain House Parkway	Basic	B	E
Eastbound Mountain House Parkway Diagonal Off-Ramp	Diverge	A	C
Eastbound freeway from Mountain House Parkway Off-Ramp to On-Ramp	Basic	B	D
Eastbound Mountain House Parkway Southbound Loop On-Ramp	Merge	B	D
Eastbound Mountain House Parkway Northbound Diagonal On-Ramp	Basic ^a	B	D
Eastbound freeway from Mountain House Parkway to 11th Street	Basic ^a	B	D

Note: The mainline volume is listed for Basic segments, and the ramp volume is listed for Merge and Diverge segments.

^a Because the on-ramp to off-ramp distance is greater than 1 mile, so the segment is assumed to fall out of the realm of weaving. As a result, the segment is analyzed as a Basic segment.

^b Because the acceleration lane is longer than 1,500 feet, the segment is analyzed as a Basic segment rather than a Merge segment.

Conditions in Construction Year 2023 without the project are shown in Tables 1-3 and 1-4. In 2023, intersections are expected to operate at acceptable level of service, with only slightly longer delay times on the westbound ramp intersection during evening peak hours and on the eastbound ramp intersection during both morning and evening peak hours (see Table 1-3). All freeway segment and ramp section operations would worsen by 2023 without the project (see Table 1-4). The I-205 eastbound segments and ramps would all operate at an unacceptable level of service during evening peak hours, and the Mountain House Parkway to I-580 segment would operate at an unacceptable level of service during the morning peak hours.

Table 1-3. Intersection Demand Volume Operations—Construction Year 2023 No-Build Alternative

Intersection (Control)—Movement	Morning Peak Hour Level of Service	Morning Peak Hour Delay (seconds)	Evening Peak Hour Level of Service	Evening Peak Hour Delay (seconds)
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Left Turn	C	21.8	C	34.7
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Right Turn	A	5.2	A	5.7
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Left Turn	C	33.3	C	21.5
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Through	A	5.9	A	4.5
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Through	D	39.3	D	46.8
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Right Turn	C	28.6	A	6.7
Mountain House Parkway/I-205 Westbound Ramps (Signal)— Overall	C	24.6	C	21.9
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Left Turn	C	25.6	C	27.6
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Right Turn	B	15.2	B	12.0
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Through	A	5.0	A	8.0
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Right Turn	A	3.7	A	7.5
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Through	A	7.8	A	4.6
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Right	A	7.7	A	6.7
Mountain House Parkway/I-205 Eastbound Ramps (Signal)— Overall	A	8.4	A	8.5

Note: Level of service/average delay in seconds per vehicle and (volume and percent served) is reported from an average of 12 runs from SimTraffic 10.

Table 1-4. Freeway Operations—Construction Year 2023 No-Build Alternative

Location	Type	Morning Peak Hour Level of Service	Evening Peak Hour Level of Service
Westbound freeway from 11th Street to Mountain House Parkway	Basic ^a	D	B
Westbound Mountain House Parkway Diagonal Off-Ramp	Basic ^a	D	B
Westbound freeway from Mountain House Parkway Off-Ramp to On-Ramp	Basic	D	B
Westbound Mountain House Parkway Diagonal On-Ramp	Basic ^b	D	B
Westbound freeway from Mountain House Parkway to I-580	Basic	E	B
Eastbound freeway from I-580 to Mountain House Parkway	Basic	B	F
Eastbound Mountain House Parkway Diagonal Off-Ramp	Diverge	A	F
Eastbound freeway from Mountain House Parkway Off-Ramp to On-Ramp	Basic	B	F
Eastbound Mountain House Parkway Southbound Loop On-Ramp	Merge	C	F
The eastbound Mountain House Parkway Northbound Diagonal On-Ramp	Basic ^a	B	E
Eastbound freeway from Mountain House Parkway to 11th Street	Basic ^a	B	E

Notes: The mainline volume is listed for Basic segments, and the ramp volume is listed for Merge and Diverge segments.

^a Because the on-ramp to off-ramp distance is greater than 1 mile, the segment is assumed to fall out of the realm of weaving. The segment is analyzed as a Basic segment.

^b Because the acceleration lane is longer than 1,500 feet, the segment is analyzed as a Basic segment rather than a Merge segment.

Under Design Year 2043 Conditions, I-205/Mountain House Parkway westbound ramp intersections would operate at an unacceptable level of service during both morning and evening peak hours, while operations at the eastbound ramp intersection would worsen but not to a less-than-acceptable level of service (see Table 1-5). In 2043, projected build-out of the *Mountain House Specific Plan* and the *Cordes Ranch Specific Plan* would result in the existing I-205/Mountain House Parkway Interchange operating at unacceptable level of service (F) during both morning and evening peak hours (see Table 1-6).

Table 1-5. Intersection Demand Volume Operations—Design Year 2043 No-Build Alternative

Movement	Morning Peak Hour Level of Service	Morning Peak Hour Delay (seconds)	Evening Peak Hour Level of Service	Evening Peak Hour Delay (seconds)
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Left Turn	F	86.1	F	90.5
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Right Turn	B	11.4	F	122.6
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Left Turn	F	284.3	C	25.2

Movement	Morning Peak Hour Level of Service	Morning Peak Hour Delay (seconds)	Evening Peak Hour Level of Service	Evening Peak Hour Delay (seconds)
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Through	A	8.3	A	7.8
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Through	F	1,222.3	F	1,671.7
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Right Turn	F	459.5	B	14.5
Mountain House Parkway/I-205 Westbound Ramps (Signal)— Overall	F	470.7	F	424.6
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Left Turn	C	22.5	D	39.5
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Right Turn	C	29.6	B	18.8
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Through	F	140.1	B	18.6
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Right Turn	A	5.7	A	8.3
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Through	C	23.7	A	3.9
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Right Turn	B	15.9	A	5.8
Mountain House Parkway/I-205 Eastbound Ramps (Signal)— Overall	C	32.1	B	14.1
Mountain House Parkway/Road A (Schulte Road) (Signal)—Eastbound Left Turn	F	1,150.2	F	267.8
Mountain House Parkway/Road A (Schulte Road) (Signal)—Eastbound Through	F	183.7	E	73.7
Mountain House Parkway/Road A (Schulte Road) (Signal)—Eastbound Right Turn	F	135.3	C	34.9
Mountain House Parkway/Road A (Schulte Road) (Signal)—Westbound Left Turn	F	163.1	E	67.2
Mountain House Parkway/Road A (Schulte Road) (Signal)—Westbound Through	E	63.6	F	120.2
Mountain House Parkway/Road A (Schulte Road) (Signal)—Westbound Right Turn	C	29.6	F	145.3
Mountain House Parkway/Road A (Schulte Road) (Signal)—Northbound Left Turn	F	1,051.1	F	760.7
Mountain House Parkway/Road A (Schulte Road) (Signal)—Northbound Through	F	477.6	F	355.5
Mountain House Parkway/Road A (Schulte Road) (Signal)—Northbound Right Turn	F	90.2	F	172.9
Mountain House Parkway/Road A (Schulte Road) (Signal)—Southbound Left Turn	E	70.4	E	61.1
Mountain House Parkway/Road A (Schulte Road) (Signal)—Southbound Through	C	21.5	D	44.5
Mountain House Parkway/Road A (Schulte Road) (Signal)—Southbound Right Turn	B	10.6	A	8.9
Mountain House Parkway/Road A (Schulte Road) (Signal)— Overall	F	217.7	F	253.4

Note: Level of service/average delay in seconds per vehicle and (volume and percent served) is reported from an average of 12 runs from SimTraffic 10.

Table 1-6. Freeway Operations—Design Year 2043 No-Build Alternative

Location	Type	Morning Peak Hour Level of Service	Evening Peak Hour Level of Service
Westbound freeway from Lammers Road to Mountain House Parkway	Basic ^a	F	C
Westbound Mountain House Parkway Diagonal Off-Ramp	Basic ^a	F	C
Westbound freeway from Mountain House Parkway Off-Ramp to On-Ramp	Basic	F	B
Westbound Mountain House Parkway Diagonal On-Ramp	Basic ^b	F	B
Westbound freeway from Mountain House Parkway to I-580	Basic	F	C
Eastbound freeway from I-580 to Mountain House Parkway	Basic	C	F
Eastbound Mountain House Parkway Diagonal Off-Ramp	Diverge	A	F
Eastbound freeway from Mountain House Parkway Off-Ramp to On-Ramp	Basic	B	F
Eastbound Mountain House Parkway Southbound Loop On-Ramp	Merge	C	F
Eastbound Mountain House Parkway Northbound Diagonal On-Ramp	Basic ^a	C	F
Eastbound freeway from Mountain House Parkway to Lammers Road	Basic ^a	C	F

Notes: The mainline volume is listed for Basic segments, and the ramp volume is listed for Merge and Diverge segments. Analysis results are from HCS 2010.

^a Because the on-ramp to off-ramp distance is greater than 1 mile, the segment is assumed to fall out of the realm of weaving. The segment is analyzed as a Basic segment.

^b Because the acceleration lane is longer than 1,500 feet, the segment is analyzed as a Basic segment rather than a Merge segment.

Logical Termini and Independent Utility

Federal Highway Administration regulations (23 Code of Federal Regulations 771.111 [f]) require that the action evaluated:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
- Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made).
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Consideration of concepts of logical termini and independent utility avoids segmenting of projects and unevaluated impacts on resources. Segmenting of a project occurs when the transportation need extends past the study boundaries, requiring additional improvements that may result in impacts that are not addressed in the environmental analysis. The proposed project would function and address the purpose and need identified above without additional improvements. Therefore, the project has independent utility. The project would also connect logical termini, in that the area studied encompasses a broad enough area to fully address environmental issues.

1.3 Project Description

Caltrans, in cooperation with the City, proposes to improve the existing hybrid tight-diamond/loop interchange at I-205/Mountain House Parkway/International Parkway in San Joaquin County to accommodate traffic resulting from ongoing and planned development, primarily of the *Cordes Ranch Specific Plan*.

Figure 1-1. Project Vicinity Map

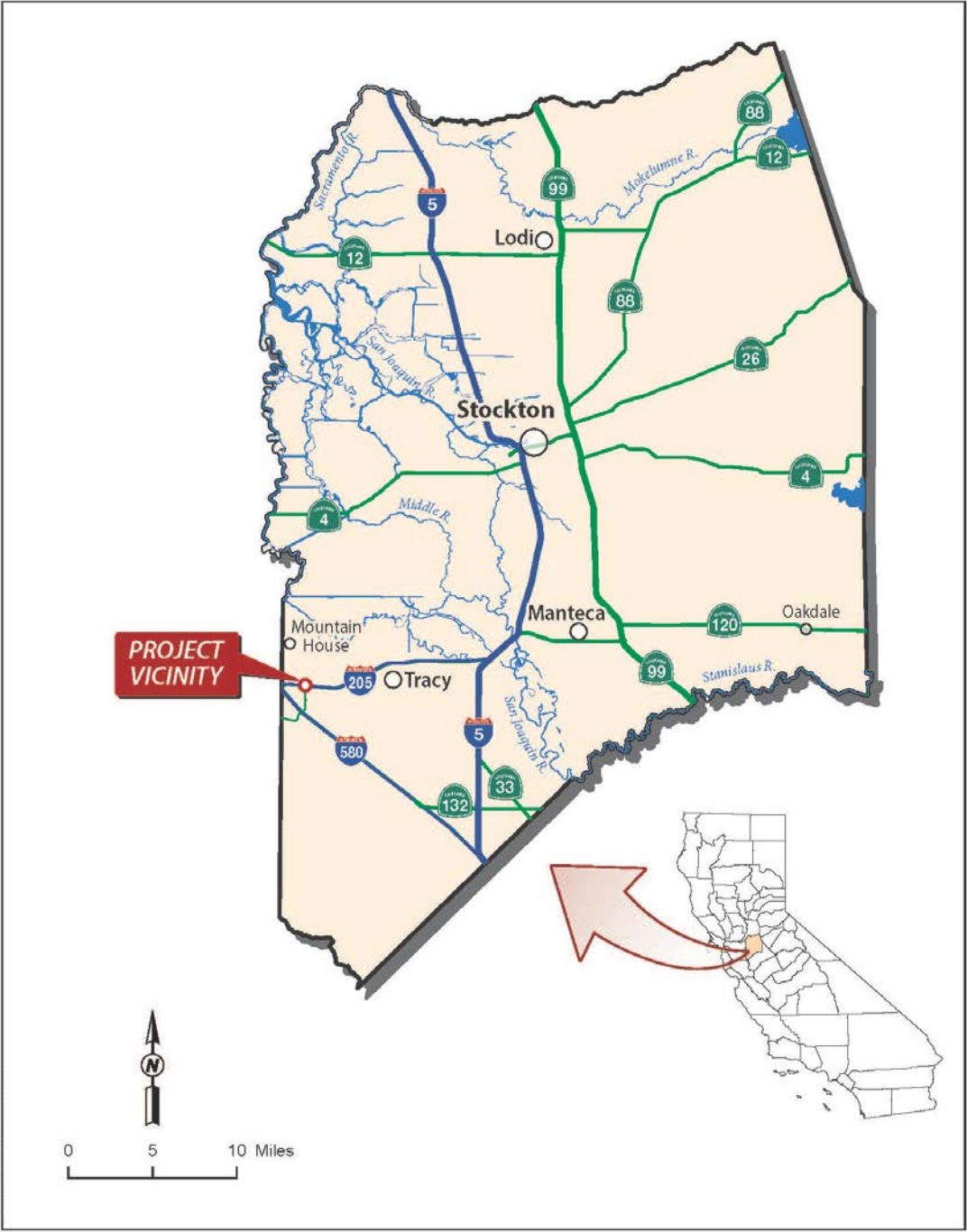
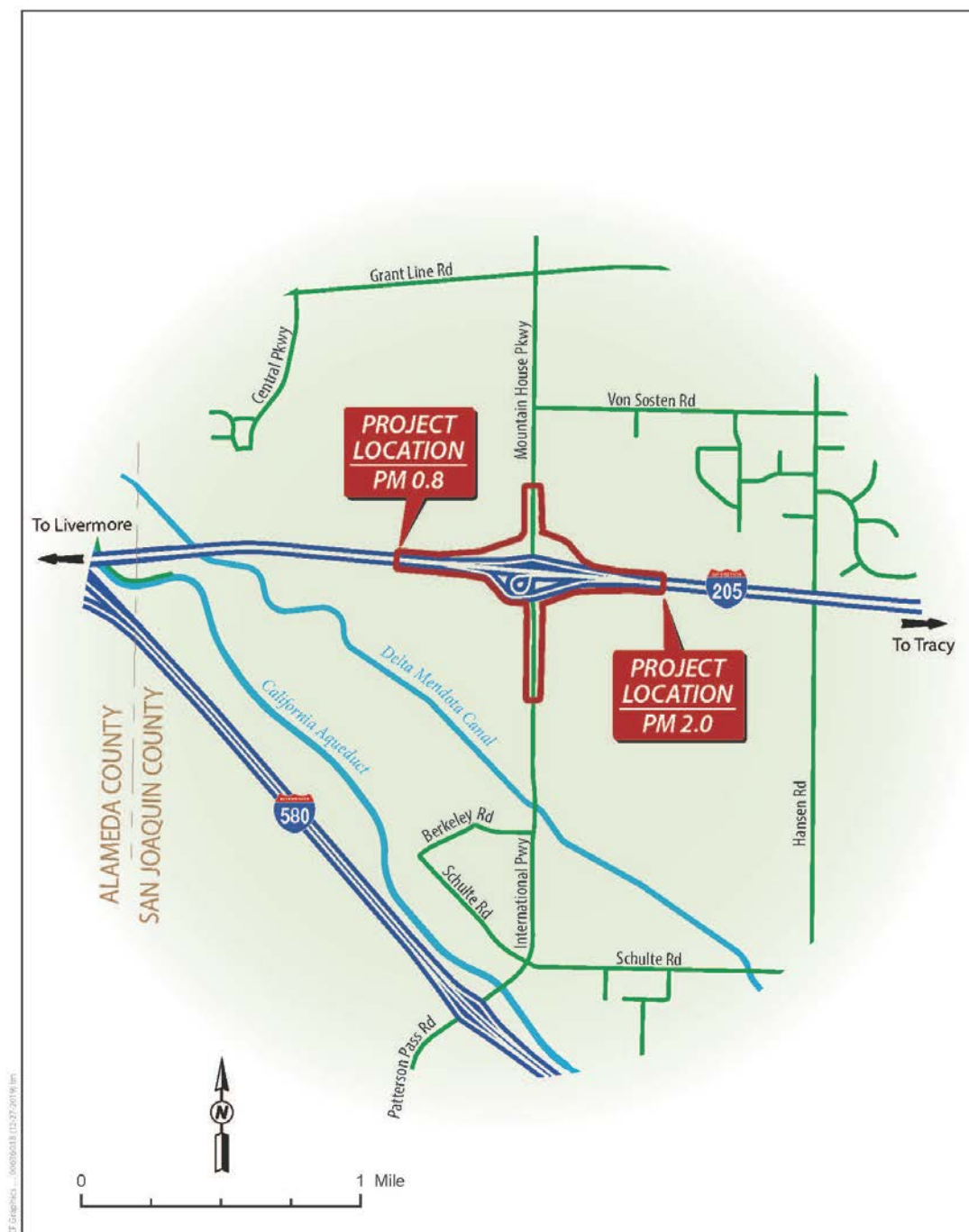


Figure 1-2. Project Location Map



1.4 Project Alternatives

A Build Alternative and a No-Build Alternative are considered in this document.

1.4.1 Build Alternatives

The project would convert the existing hybrid tight-diamond/loop interchange into a partial cloverleaf interchange (Type L-9). The project would consist of the following improvements:

- Realigning the westbound exit ramp, westbound direct entrance ramp, and eastbound direct entrance ramp.
- Adding a new westbound loop entrance ramp on the north side of I-205.
- Restriping the overcrossing.
- Widening Mountain House/International Parkway south and north of I-205.

To improve traffic flow for the westbound ramps and Mountain House Parkway intersection, the existing sidewalk would be removed, and a new 6-foot-wide sidewalk would be constructed along the east side of the Mountain House Parkway (see Figure 1-2).

The westbound off-ramp would be realigned, providing space for a loop on-ramp that would give northbound traffic on Mountain House Parkway access to westbound I-205. The westbound off-ramp would consist of five lanes at the intersection: two dedicated control-right turns, a shared through/left turn lane and two dedicated left turn lanes. The westbound loop on-ramp would consist of two lanes to westbound I-205. The westbound direct on-ramp would also be realigned to allow for three lanes including a high-occupancy vehicle lane at the entrance ramp.

The existing overcrossing would be re-striped to add one lane for a total of seven lanes on the overcrossing. The existing raised median would be removed and replaced with a 1-foot raised median. A new 6-foot-wide sidewalk would be constructed at the east side of the existing structure. With the removal of the existing sidewalk, the existing fence and street lighting would be reconstructed with a new concrete barrier.

Modifications to the eastbound ramp on the south side of I-205 would accommodate additional turning movements from both northbound and southbound Mountain House/International Parkway onto eastbound I-205. The eastbound on-ramp would be realigned to allow for three lanes, including a high-occupancy vehicle lane at the entrance ramp. The eastbound off-ramp would be restriped to accommodate three lanes at the signalized intersection: a dedicated right-turn lane, a dedicated left turn lane, and a shared through/left-turn/right turn at the middle lane.

In the southbound direction, bicycle traffic would be conveyed through the interchange via a buffered Class 2 bike lane. In the northbound direction, bicycle traffic would approach the interchange and cross the bridge structure within a buffered Class 2 bike lane. All pedestrian traffic would be conveyed through the interchange on a sidewalk on the northbound side of Mountain House/International Parkway. North of the overcrossing structure, pedestrian and bicycle traffic would use a grade-separated Class 1 bike trail that passes underneath the westbound off-ramp and westbound loop on-ramp.

The estimated total cost for the Build Alternative is \$52,858,000.

Construction

Limited nighttime construction work is expected to set or remove temporary concrete railings for ramp widenings. Construction staging and contractor yards could be located within the southwest quadrant, between the eastbound off-ramp and the mainline. Construction is expected to be accomplished in four phases: mobilization, westbound bridge approach widening, eastbound bridge approach widening, and demobilization and final striping. During construction, all traffic would be constrained to existing or new pavement. No detours are expected.

Depths of excavation are expected to range from 3 feet to 10 feet, except pile driving, which would extend to more than 50 feet deep. The following assumptions were made regarding the depth of excavation.

- Road widening excavations would be about 5 feet deep.
- Detention basins excavations would be less than 10 feet deep.
- Utility line trenches would be less than 10 feet deep.
- Northwest wall foundations would be less than 8 feet deep.
- Southwest wall foundations would be less than 3 feet deep and would be supported by 50-foot-deep piles.

This project contains several standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections in Chapter 2.

Transportation System Management and Transportation Demand Management Alternatives

Transportation System Management strategies focus on improving the efficiency of existing facilities without increasing the number of through lanes. Options such as ramp metering, auxiliary lanes, and reversible lanes are generally implemented under Transportation System Management and help reduce congestion. Although Transportation System Management measures

alone could not satisfy the purpose and need of the project, the project includes several Transportation System Management measures that would improve efficiency, including improved on-ramps and off-ramps and an auxiliary lane.

Transportation Demand Management strategies focus on regional means of reducing the number of vehicle trips and vehicle miles traveled, as well as increasing vehicle occupancy. In addition to high-occupancy vehicle lanes, projects may encourage these reductions by providing other options, such as ride sharing and facilities for public transportation, or bicycle and pedestrian facilities. The project includes bicycle and pedestrian facilities, such as sidewalks, curbs, bicycle lanes, and pedestrian-accessible overcrossings.

Reversible Lanes

Reversible lanes were eliminated from consideration in the Draft Project Report because the traffic patterns within the interchange do not lend themselves to reversible lanes. Reversible lanes are appropriate when there are high through volumes on the local arterial that are highly directional in nature from the morning to evening peak hour periods (e.g., heavy southbound traffic through the interchange in the morning and then heavy northbound traffic in the evening. In this case, the heavy traffic movements are to and from the I 580 (not through the interchange).

1.4.2 No-Build (No-Action) Alternative

Under the No-Build Alternative, the existing interchange would remain unchanged except for planned and programmed improvements. Impacts from traffic associated with the *Cordes Ranch Specific Plan* would not be addressed and other mitigation for impacts of the specific plan would need to be identified.

1.5 Alternatives Considered but Eliminated from Further Discussion

1.5.1 Hybrid (Type L-1 and L-9) Interchange

This alternative would have widened the interior lane of the westbound off-ramp and a total of four lanes would approach the intersection to provide capacity for all turning movements. The through and right turn lanes on northbound Mountain House Parkway south of the eastbound ramp intersections would be extended 260 feet to accommodate the storage required for the through and right-turn traffic. The existing eastbound loop on-ramp would have been reconfigured to a Caltrans Type L-9 Interchange standard per the Highway Design Manual. The eastbound loop on-ramp terminus would have been perpendicular to Mountain House Parkway so that

vehicle speeds would be reduced by the right angle turn, allowing drivers to better respond to the bicycle conflict. The alternative was rejected due to poor operational performance.

1.6 Permits and Approvals Needed

Table 1-7 lists the permits, licenses, agreements, and certifications anticipated to be required for project construction.

Table 1-7. Expected Permits Required for Project Construction

Agency	Permit/Approval	Status
Central Valley Regional Water Quality Control Board	Clean Water Act Section 402/Stormwater Discharge	To be completed at final design
California State Historic Preservation Office	Section 106 concurrence	Completed November 26, 2019

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

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

- Consistency with Plans and Policies—The proposed project is consistent with the *San Joaquin County General Plan*, the *City of Tracy General Plan*, and the *Cordes Ranch Specific Plan*. (Community Impact Assessment Memorandum, November 2019)
- Coastal Zone—The proposed project is not in or near a coastal zone and would not affect a coastal zone.
- Wild and Scenic Rivers—The proposed project is not next to or within the vicinity of a wild and scenic river and, therefore, would not affect such a resource. (National Wild and Scenic River Website: <http://www.rivers.gov/california.php>)
- Parks and Recreation—The parks nearest the project area are neighborhood parks in the city of Tracy, about 3.5 miles to the east and neighborhood parks in the community of Mountain House, about 2 miles to the north. The proposed project would not impede access to any parks or have any negative effects on parks or recreational facilities. (Community Impact Assessment Memorandum, November 2019)
- Timberland—No timberlands are within the project vicinity and, therefore, the project would not affect timberlands.
- Growth—Based on the Community Impact Analysis Memorandum prepared for the project in November 2019, the proposed project would not affect growth. The project would improve an existing interchange and would not directly induce growth. It would not indirectly induce growth by providing access to new areas or by altering the nature, location, or timing of planned future development. (Community Impact Assessment Memorandum, November 2019)
- Community Character and Cohesion—The proposed project would improve an existing interchange. The project does not have the potential to divide a community or affect community character or cohesion. (Community Impact Assessment Memorandum, November 2019)

- **Environmental Justice**—The vicinity of the project area, when considered as a whole, exhibits demographic characteristics similar to the rest of Tracy and San Joaquin County. Environmental justice impacts of the proposed project would be typical of those of an interchange improvement project: construction-related air quality emissions, construction-related noise, and visual impacts. Under the proposed project, the impacts would be distributed uniformly across the extent of the study area and would decrease in intensity with distance from the project area boundary. No adverse effects would be predominantly borne by a minority and/or low-income population. No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898. (Community Impact Assessment Memorandum, November 2019)
- **Mineral Resources**—According to the California Department of Conservation's Mineral Land Classification Map (2015), the project area does not contain any significant amounts of mineral resources. Therefore, the project would not affect mineral resources.
- **Wildfire**—The study area is not within or near lands classified as very high fire hazard severity zones, or state responsibility areas, according to the San Joaquin County Wildland Fire Responsibility Areas Map (2014). Therefore, the project would not affect wildfire.
- **Natural Communities**—Based on the findings of the Natural Environment Study conducted for the project, the only natural communities of special concern in the biological study area are wetlands or other non-wetland waters, which are discussed in Section 2.3.1, Wetlands and Waters of the United States. Because there are no other natural communities of special concern within the biological study area, there is no potential to affect natural communities and no further discussion is provided. (Natural Environment Study, November 2019.)

2.1 Human Environment

2.1.1 Existing and Future Land Use

Affected Environment

The proposed project is located at the I-205/Mountain House Parkway Interchange in unincorporated San Joaquin County, next to the city of Tracy, and is currently surrounded by agricultural land. The portion of the interchange south of I-205 is within Tracy's sphere of influence, but outside of the city limits. As indicated in the *San Joaquin County General Plan*, most unincorporated land in San Joaquin County is designated General Agriculture with more intensive residential and urban uses in the incorporated cities, such as Stockton, Manteca, Tracy, and Lodi and unincorporated communities.

According to San Joaquin County's Land Use Diagram, the land to the north of the project area is designated as Rural Residential and General Agricultural. The *City of Tracy General Plan* Land Use Designations diagram designates land on either side of the interchange to the south as Commercial.

The southern portion of the interchange is within the *Cordes Ranch Specific Plan* Area and makes up part of the northern boundary of the specific plan, which includes 1,774 acres of largely undeveloped, primarily vacant agricultural land. Tracy's City Council approved the specific plan on September 17, 2013 and development is currently under way. Proposed land uses within the specific plan area include commercial, retail and business park, manufacturing, and distribution, and more than 90 acres of parks and open space. The Draft Environmental Impact Report indicates that construction would take place in two phases, with Phase 1 completed in 10 to 15 years and Phase 2 completed within 20 to 30 years. A Pacific Gas and Electric natural gas facility maintenance yard is located immediately south of the interchange.

Environmental Consequences

Effects of the Build Alternative

A total of 16.194 acres currently under agricultural land use and 12.566 acres under commercial/industrial/office land use would become transportation facility as a result of the proposed project. The project would have no effect on other surrounding lands.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are necessary.

2.1.2 Farmland

Regulatory Setting

NEPA and the Farmland Protection Policy Act (7 United States Code 4201 to 4209; and its regulations (7 Code of Federal Regulations Part 658) require federal agencies, such as the Federal Highway Administration, to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

CEQA requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

Affected Environment

The following discussion is based upon the Community Impact Assessment Memorandum prepared for the proposed project in November 2019 and the associated Farmland Conversion Impact Rating form dated October 9, 2019. The study area addressed in the Community Impact Assessment Memorandum contains agricultural land that is classified by the California State Department of Conservation Farmland Mapping and Monitoring Program as farmland of local importance, and Semi-Agricultural/Commercial. No Williamson Act parcels would be affected by the proposed project.

Environmental Consequences

Effects of the Build Alternative

About 19 acres of farmland would be converted to non-agricultural use. Acquisitions by land classification are shown below in Table 2.1.2-1.

Table 2.1.2-1. Farmland Acquisitions by Classification

Land Use Type	Acres
Prime Farmland	9.50
Farmland of Local Importance	0.0
Other	9.26
Total	18.76

About 9.5 acres of prime farmland would be converted to non-agricultural use. The acquisition of narrow strips of land next to I-205 would not take the parcels out of agricultural, production. Impacts on mapped farmland were evaluated using the United States Department of Agriculture "Farmland Conversion Impact Rating," which was completed in conjunction with Natural Resources Conservation Service. This is bound separately in the community impact report.

A land evaluation and site assessment was performed using Form CPA-106 because Prime Farmland would be converted to expand the right-of-way. Scores from the completed Form CPA-106 for the proposed project determined that the acquisition of 9.5 acres of Prime Farmland would not be substantial. The project would result in the conversion of less than 0.00002 percent of farmland in San Joaquin County. Therefore, the proposed project is not expected to result in adverse effects on farmlands and no mitigation measures are required.

Effects of the No-Build Alternative

Under the No-Build Alternative, no construction would take place and no farmland would be impacted.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are necessary.

2.1.3 Relocations and Real Property Acquisition

Regulatory Setting

Caltrans' Relocation Assistance Program 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 Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project 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. Please see Appendix B for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix A for a copy of Caltrans' Title VI Policy Statement.

Affected Environment

The following discussion is based upon the Community Impact Assessment Memorandum and Right-of-Way Data Sheet completed for the project in November 2019 and the right-of-way data sheets for the project dated November 4, 2019. The interchange is predominately surrounded by agricultural lands and scattered residences. There is a Pacific Gas and Electric natural gas facility maintenance yard (Tracy Maintenance Station) immediately next to the interchange to the south. There are four rural residential properties about 450 feet to the south. One rural residence lies directly northeast of the interchange; a low-density to medium-density residential subdivision is 0.5 mile to the northeast; and an auction yard and distribution center are 0.5 mile to the southwest.

Environmental Consequences

Effects of the Build Alternative

Implementation of the project would require the permanent right-of-way acquisitions of strips of land from several parcels designated for uses that include industrial, commercial, office, and general agriculture. Project impacts include partial acquisitions of the lands shown in Table 2.1.3-1. Project construction would require the removal of some formal and informal landscaping, fencing, and mailboxes and would alter entry drives at the two residential properties on the east side of International Parkway, near the southern project end.

Full acquisition of a property occurs if the entire parcel or any portion of a building is within the footprint of an alternative. Partial acquisition occurs if any part of a parcel is within the footprint of the alternative but does not

require the displacement of the structures on a property. Acquisitions associated with the project range from a sliver or edge of a parcel to substantial portions that fall short of entire displacement. One unoccupied structure would be removed.

Table 2.1.3-1. Permanent Acquisitions in the Study Area (by parcel)

Parcel (Accessor's Parcel Number)	Land Use	Right-of-Way (acres)
20908006	Industrial	0.695
20908026	Commercial	7.209
20908040	Commercial	1.111
20909036	Office	0.011
20912009	Office	0.068
20946018*	Agriculture (general)	1.55
20946020*	Agriculture (general)	4.644
20946026*	Industrial (limited)	0.068
20946027	Office	0.17
20946028	Office	0.152
20946029	Office	0.024
20946032	Commercial	1.722
20946033	Office/Industrial	1.333
Total	-	18.76

Effects of the No-Build Alternative

Under the No-Build Alternative, no construction would take place and no new right-of-way would be acquired. Therefore, there would be no relocations or displacements.

Avoidance, Minimization, and/or Mitigation Measures

Comply with the Uniform Relocation Assistance and Real Property Acquisition Act.

Any acquisitions and compensation to property owners would comply with the Uniform Relocation Assistance and Real Property Acquisition Act, as amended. In accordance with this act, compensation is provided to eligible recipients for property acquisitions. Relocation assistance payments and counseling would be provided by the transportation agencies to persons and businesses in accordance with the act, as amended, to ensure adequate relocation. All eligible displacees would be entitled to moving expenses. All benefits and services would be provided equitably to all displacees without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. All relocation activities would be conducted by the implementing agencies in accordance with the Uniform Act, as amended. Relocation resources would be available to all displacees without discrimination.

The Nonresidential Relocation Assistance Program assists businesses, farms, and nonprofit organizations in locating suitable replacement properties and reimbursement for certain costs involved in relocation. The Relocation Assistance Program would provide current lists of properties offered for sale or rent, suitable for a business' specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are instead of any moving, searching, and re-establishment expenses. Relocation resources would be available to all displacees free of discrimination.

2.1.4 Utilities and Emergency Services

Affected Environment

Information in this section comes from the right-of-way data sheets prepared for the project and from direct research. The following utility companies have been determined to have facilities within the project vicinity: Verizon, and Zayo (fiber network). The city of Tracy provides sewer, water, and storm drain services. Tracy Delta Solid Waste Management, Inc. provides garbage collection and recycling services to the commercial and industrial customers in the project area. The nearest landfill is Altamont Landfill and Resource Recovery Facility, about 10 miles west of the project area.

In the project area, the South San Joaquin County Fire Authority provides fire protection services. Their nearest station is Tracy Fire Station 6 in the northwest area of Tracy, about 5 miles east of the interchange. The Tracy Police Department and the California Highway Patrol provide police protection services.

Emergency medical services in Tracy and the surrounding areas are provided by the South San Joaquin County Fire Authority and a local private transport ambulance provider (American Medical Response). The nearest full-service hospital and emergency care facility is in Tracy, about 8 miles east of the interchange, at Sutter Tracy Community Hospital.

Environmental Consequences

Effects of the Build Alternative

The interchange improvement would require potholing to determine if underground utilities require relocation. Relocation of utilities, if necessary, would be coordinated with the utility owners during the design process.

Overhead facilities (potentially electrical distribution systems, telephone, and television cables) and underground utilities (water mains, sanitary sewers, storm drains, gas lines, fiber optic, and electrical cables) along I-205 and Mountain House Parkway would be relocated because of the project.

It is expected that public facilities and emergency service centers in the project vicinity would be minimally affected during construction. During construction, short-term lane closures would be necessary. Lane closures and increased traffic congestion predicted in the study area would result in slower response times for police and emergency service providers. Implementation of a Transportation Management Plan and early coordination with emergency service providers would avoid or minimize the severity of increases in response times. The Build Alternative would improve access for emergency vehicles in the long term, thereby decreasing response time.

Standardized Measures

Early notification to utility service and communications providers would help to ensure that affected patrons are notified prior to any temporary loss of service.

The construction contractor will notify emergency service providers prior to any lane closures.

As part of construction, a Transportation Management Plan would be prepared to address traffic impacts related to staged construction, lane closures, and, if applicable, detours. At a minimum, the Transportation Management Plan would detail the procedure for conducting outreach and notification to publicize planned disruptions or delays, and for the use of portable message signs. The plan would require coordination with emergency service providers.

Effects of the No-Build Alternative

Under the No-Build Alternative, no construction would take place and there would be no relocation of utilities or impacts on response time of emergency service providers. However, in the long term, emergency response times may increase because traffic is expected to increase.

Avoidance, Minimization, and/or Mitigation Measures

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

2.1.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration 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 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 expected 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 United States Department of Transportation issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the United States Department of Transportation regulations (49 Code of Federal Regulations 27) implementing Section 504 of the Rehabilitation Act (29 United States Code 794). The Federal Highway Administration has enacted regulations for the implementation of the 1990 Americans with Disabilities Act, including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the American Disabilities Act requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

The following discussion is based upon the Traffic Operations Analysis Report completed for the project in August 2019. Level of service D is the threshold for acceptable operation of intersections and roadways used in this analysis and is based on Caltrans Traffic Operations staff and the *City of Tracy General Plan*.

The study area extends along I-205 and Mountain House/International Parkway. Two intersections (the east and westbound ramps) and five mainline roadway segments were selected to be analyzed for the transportation and traffic study.

Under existing conditions, the eastbound and westbound I-205 ramps operate at acceptable levels of service in the morning and evening peak hours, as do all freeway segments (see Tables 1-1 and 1-2).

Currently, there are no formal bicycle facilities in the project area. Most of the project area does not have formal sidewalks. The California Aqueduct Trail, a Class 1 Multi-Use path is located about 1.5 miles south of the project area.

Very few pedestrians were observed during weekday morning or evening peak hours (a maximum of two pedestrians); however, as development occurs in the *Cordes Ranch Specific Plan Area*, the number of pedestrians and bicyclists is projected to increase.

No bus lines run along the project roadways.

Environmental Consequences

Effects of the Build Alternative

Under the Build Alternative, in construction year 2023, both intersections would operate at acceptable levels of service during both morning and evening peak hours. The I-205/Mountain House Parkway westbound ramps

would improve from a level of service F without the project to a level of service B with the project in the morning peak hour, and from a level of service F without the project to a level of service A with the project in the evening peak hours. With the project, the eastbound ramps would improve from level of service D to level of service B in the morning peak hours and would remain a level of service A in the evening peak hours, while reducing the delay (see Tables 2.1.5-1 and 2.1.5-2.)

Table 2.1.5-1. Intersection Operations Construction Year 2023 (Level of Service)

Intersection (Control)—Movement	No-Build Morning Peak Hour Level of Service	No-Build Evening Peak Hour Level of Service	With Project Morning Peak Hour Level of Service	With Project Evening Peak Hour Level of Service
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Left Turn	F	C	B	C
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Right Turn	E	C	A	A
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Left Turn	E	D	A	A
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Through	B	B	A	A
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Through	F	F	B	A
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Right Turn	F	F	A	A
Mountain House Parkway/I-205 Westbound Ramps (Signal)— Overall	F	F	B	A
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Left Turn	C	C	C	C
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Right Turn	C	A	B	B
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Through	A	A	A	A
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Right Turn	A	A	A	A
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Through	E	A	B	A
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Right	A	A	A	A
Mountain House Parkway/I-205 Eastbound Ramps (Signal)— Overall	D	A	B	A

Table 2.1.5-2. Intersection Operations Construction Year 2023 (Delay)

Intersection (Control)—Movement	No-Build Morning Peak Hour Level of Service	No-Build Evening Peak Hour Level of Service	With Project Morning Peak Hour Level of Service	With Project Evening Peak Hour Level of Service
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Left Turn	194.4	27.3	16.5	33.1
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Right Turn	75.2	24.4	3.2	3.6
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Left Turn	57.1	44.3	8.1	5.0
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Through	10.1	10.3	4.5	4.3
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Through	106.4	271.0	16.8	5.4
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Right Turn	118.4	321.9	4.5	1.5
Mountain House Parkway/I-205 Westbound Ramps (Signal)— Overall	111.7	90.2	10.8	7.5
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Left Turn	22.7	26.5	25.0	28.3
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Right Turn	30.0	7.3	19.5	14.8
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Through	6.2	8.9	3.7	4.1
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Right Turn	1.8	5.3	2.1	3.8
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Through	70.4	7.4	14.2	4.7
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Right	6.4	6.3	9.5	7.0
Mountain House Parkway/I-205 Eastbound Ramps (Signal)— Overall	41.1	8.6	12.3	6.9

As shown in Table 2.1.5-3, the level of service in each segment of both I-205 westbound and I-205 eastbound would remain unchanged. A new section (Mountain House Parkway northbound loop on-ramp) would be constructed under the proposed project; morning and evening operations would be acceptable.

Table 2.1.5-3. Freeway Operations Construction Year 2023 (Delay)

Location	Type	Morning Peak Hour Level of Service (No Build)	Evening Peak Hour Level of Service (No Build)	Morning Peak Hour Level of Service (Build)	Evening Peak Hour Level of Service (Build)
I-205 Westbound (11th Street to Mountain House Parkway)	Basic	D	B	D	B
I-205 Westbound (Mountain House Parkway Diagonal Off-Ramp)	Basic	D	B	D	B
I-205 Westbound (Mountain House Parkway Off-Ramp to On-Ramp)	Merge	D	B	D	B
I-205 Westbound (Mountain House Parkway Northbound Loop On-Ramp)	Basic	Not Applicable	Not Applicable	D	B
I-205 Westbound (Mountain House Parkway Diagonal On-Ramp)	Basic	D	B	D	B
I-205 Westbound (Mountain House Parkway to I-580)	Basic	E	B	E	B
I-205 Eastbound (I-580 to Mountain House Parkway)	Basic	B	F	B	F
I-205 Eastbound (Mountain House Parkway Diagonal Off-Ramp)	Basic	A	F	A	F
I-205 Eastbound (Mountain House Parkway Off-Ramp to On-Ramp)	Basic	B	F	B	F
I-205 Eastbound (Mountain House Parkway Southbound Loop On-Ramp)	Merge	C	F	C	F
I-205 Eastbound (Mountain House Parkway Northbound Diagonal On-Ramp)	Basic	B	E	B	E
I-205 Eastbound (Mountain House Parkway to 11th Street)	Basic	B	E	B	E

In 2043, with the projected build out of the *Cordes Ranch Specific Plan*, traffic volumes are expected to increase at all intersections and freeway roadway segments compared with existing conditions (see Tables 2.1.5-4 and 2.1.5-5).

Under the Build Alternative, the Mountain House Parkway/I-205 westbound ramps would operate at an acceptable level of service in the evening peak hours and would operate at level of service F in the morning peak hours. The eastbound ramps would operate at an unacceptable level of service during both morning and evening peak hours; however, the Mountain House Parkway/Road A signal would remain at level of service F for both morning and evening peak hours, although the delay would be reduced substantially in both morning and evening peak hours.

Table 2.1.5-4. Intersection Operations Design Year 2043 (Level of Service)

Intersection (Control)—Movement	No-Build Morning Peak Hour Level of Service	No-Build Evening Peak Hour Level of Service	With Project Morning Peak Hour Level of Service	With Project Evening Peak Hour Level of Service
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Left Turn	F	F	D	D
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Right Turn	E	F	A	B
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Left Turn	F	F	A	A
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Through	A	A	A	B
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Through	F	F	F	F
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Right Turn	F	A	A	A
Mountain House Parkway/I-205 Westbound Ramps (Signal)— Overall	F	F	F	D
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Left Turn	C	D	C	D
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Right Turn	C	B	E	C
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Through	F	F	B	C
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Right Turn	A	A	A	B
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Through	B	A	E	A
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Right	B	B	C	B
Mountain House Parkway/I-205 Eastbound Ramps (Signal)— Overall	D	D	D	B
Mountain House Parkway/Road A (Signal)—Eastbound Left Turn	F	F	F	F
Mountain House Parkway/Road A (Signal)—Eastbound Through	F	F	E	F
Mountain House Parkway/Road A (Signal)—Eastbound Right Turn	F	F	D	D
Mountain House Parkway/Road A (Signal)—Westbound Left Turn	F	E	F	E
Mountain House Parkway/Road A (Signal)—Westbound Through	F	F	E	F
Mountain House Parkway/Road A (Signal)—Westbound Right Turn	F	F	A	F
Mountain House Parkway/Road A (Signal)—Northbound Left Turn	F	F	F	F
Mountain House Parkway/Road A (Signal)—Northbound Through	F	F	D	F
Mountain House Parkway/Road A (Signal)—Northbound Right Turn	F	F	B	F
Mountain House Parkway/Road A (Signal)—Southbound Left Turn	E	E	E	F

Intersection (Control)—Movement	No-Build Morning Peak Hour Level of Service	No-Build Evening Peak Hour Level of Service	With Project Morning Peak Hour Level of Service	With Project Evening Peak Hour Level of Service
Mountain House Parkway/Road A (Signal)—Southbound Through	B	D	C	E
Mountain House Parkway/Road A (Signal)—Southbound Right Turn	A	A	B	B
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Overall	F	F	F	F

Table 2.1.5-5. Intersection Operations Design Year 2043 (Delay)

Intersection (Control)—Movement	No-Build Morning Peak Hour Delay (seconds)	No-Build Evening Peak Hour Delay (seconds)	With Project Morning Peak Hour Delay (seconds)	With Project Evening Peak Hour Delay (seconds)
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Left Turn	164.1	156.6	46.3	53.6
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Westbound Right Turn	79.1	112.8	6.1	17.5
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Left Turn	341.6	90.7	9.8	7.2
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Northbound Through	5.7	9.7	8.7	11.5
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Through	298.9	569.0	735.3	148.9
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Southbound Right Turn	174.1	5.1	7.3	1.6
Mountain House Parkway/I-205 Westbound Ramps (Signal)—Overall	177.6	165.7	229.9	53.1
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Eastbound Left Turn	22.8	39.3	25.1	41.5
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Right Turn	23.8	17.8	71.9	25.1
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Through	405.2	105.2	13.7	25.3
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Northbound Right Turn	5.7	7.6	5.5	10.1
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Through	19.2	3.9	74.4	5.8
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Southbound Right	14.9	10.4	25.6	14.8
Mountain House Parkway/I-205 Eastbound Ramps (Signal)—Overall	39.7	39.1	52.4	17.1
Mountain House Parkway/ Road A (Signal) – Eastbound Left Turn	2070.6	1088.3	419.6	331.7
Mountain House Parkway/ Road A (Signal) – Eastbound Through	249.1	233.1	69.2	80.2
Mountain House Parkway/Road A (Signal)—Eastbound Right Turn	216.8	205.9	49.0	38.5
Mountain House Parkway/Road A (Signal)—Westbound Left Turn	273.1	72.0	255.8	69.2

Intersection (Control)—Movement	No-Build Morning Peak Hour Delay (seconds)	No-Build Evening Peak Hour Delay (seconds)	With Project Morning Peak Hour Delay (seconds)	With Project Evening Peak Hour Delay (seconds)
Mountain House Parkway/Road A (Signal)—Westbound Through	182.9	292.5	65.8	85.6
Mountain House Parkway/Road A (Signal)—Westbound Right Turn	302.9	372.7	7.9	97.4
Mountain House Parkway/Road A (Signal)—Northbound Left Turn	1742.3	1073.8	603.0	353.3
Mountain House Parkway/Road A (Signal)—Northbound Through	1341.6	854.8	42.3	378.5
Mountain House Parkway/Road A (Signal)—Northbound Right Turn	969.7	880.5	16.3	380.9
Mountain House Parkway/Road A (Signal) Southbound Left Turn	73.2	64.0	72.7	87.7
Mountain House Parkway/Road A (Signal)—Southbound Through	17.7	35.0	27.9	55.7
Mountain House Parkway/Road A (Signal)—Southbound Right Turn	8.7	4.4	15.0	12.2
Mountain House Parkway/I-205 Westbound Ramps (Signal)— Overall	401.7	573.3	97.5	242.4

Freeway operations in year 2043 would be nearly identical for the Build and No-Build Alternatives (see Table 2.1.5-6). All westbound segments would operate at level of service F in the morning peak hours and at an acceptable level of service in the evening peak hours. All eastbound segments would operate at level of service F in the evening peak hours and at an acceptable level of service in the morning peak hours.

Table 2.1.5-6. Freeway Operations Design Year 2043

Location	Type	Morning Peak Hour Level of Service (No Build)	Evening Peak Hour Level of Service (No Build)	Morning Peak Hour Level of Service (Build)	Evening Peak Hour Level of Service (Build)
I-205 Westbound (11th Street to Mountain House Parkway)	Basic	F	C	F	C
I-205 Westbound (Mountain House Parkway Diagonal Off-Ramp)	Basic	F	C	F	C
I-205 Westbound (Mountain House Parkway Northbound Loop On-Ramp)	Merge	Not Applicable	Not Applicable	F	B
I-205 Westbound (Mountain House Parkway Off-Ramp to On-Ramp)	Basic	F	B	F	C
I-205 Westbound (Mountain House Parkway Diagonal On-Ramp)	Basic	F	B	F	B

Location	Type	Morning Peak Hour Level of Service (No Build)	Evening Peak Hour Level of Service (No Build)	Morning Peak Hour Level of Service (Build)	Evening Peak Hour Level of Service (Build)
I-205 Westbound (Mountain House Parkway to I-580)	Basic	F	C	F	C
I-205 Eastbound (I-580 to Mountain House Parkway)	Basic	C	F	C	F
I-205 Eastbound (Mountain House Parkway Diagonal Off-Ramp)	Basic	A	F	A	F
I-205 Eastbound (Mountain House Parkway Off-Ramp to On-Ramp)	Basic	B	F	B	F
I-205 Eastbound (Mountain House Parkway Southbound Loop On-Ramp)	Merge	C	F	C	F
I-205 Eastbound (Mountain House Parkway Northbound Diagonal On-Ramp)	Basic	C	F	C	F
I-205 Eastbound (Mountain House Parkway to 11th Street)	Basic	C	F	C	F

The proposed project would result in temporary traffic delays during construction; however, implementation of a Transportation Management Plan would minimize these impacts.

The proposed project includes a grade-separated bicycle crossing and pedestrian facilities.

Standardized Measures

PREPARE AND IMPLEMENT TRANSPORTATION MANAGEMENT PLAN

As part of construction, a Transportation Management Plan would be prepared to address traffic impacts related to staged construction, lane closures, and, if applicable, detours. At a minimum, the Transportation Management Plan would detail the procedure for conducting outreach and notification to publicize planned disruptions or delays, and for the use of portable message signage. The plan would require coordination with emergency service providers.

Effects of the No-Build Alternative

There would be no construction under the No-Build Alternative and, therefore, no construction-related traffic effects would result.

The effects under the No-Build Alternative are shown in Tables 2.1.5-1 through 2.1.5-6. Under the No-Build Alternative, traffic volumes would increase and the level of service at all study intersections and freeway operations would worsen. Mountain House Parkway/I-205 westbound ramps would operate at unacceptable levels of service in 2023 and 2043. In 2043,

Mountain House Parkway/Road A would also operate at unacceptable levels of service. Without the project, eastbound freeway segments would operate at unacceptable levels of service in the evening peak hours in 2023. In 2043, all westbound freeway segments would operate at unacceptable levels of service in the morning peak hours and all eastbound freeway segments would operate at unacceptable levels of service in the evening.

Without the project, in construction year 2023, three of the four existing intersections would worsen to unacceptable levels of service. In design year 2043, all four existing intersections would worsen to unacceptable levels of service, as presented in Tables 2.1.5-1 and 2.1.5-4, respectively. In both construction and design year, International Parkway/Schulte Road would remain at level of service F during the morning peak hours and would worsen to an unacceptable level of service during evening peak hours.

Levels of service for morning and evening peak hours would worsen to level of service F at the International Parkway/I-580 westbound ramps. Level of service during the morning peak hours for Patterson Pass Road/Frontage Road would remain at an acceptable level of service but would worsen during the evening peak hours.

In 2023, level of service on one mainline segment (International Parkway diagonal off-ramp) would decrease to unacceptable conditions in the morning peak hours (see Table 2.1.5-3). By 2043, all westbound segments would operate at level of service F during the morning peak hours and all eastbound segments would operate at level of service F during the evening peak hours (see Table 2.1.5-6).

Avoidance, Minimization, and/or Mitigation Measures

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

2.1.6 Visual/Aesthetics

Regulatory Setting

The 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 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of the National Environmental Policy Act (23 United States Code 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.

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” (California Public Resources Code Section 21001[b]).

Affected Environment

The following discussion is based upon the Visual Impact Assessment completed for the project in October 2019.

Existing Visual Character

The proposed project is in a non-urbanized area and landscape of the project corridor consists of mostly flat terrain that is vegetated with row crops, weedy grasslands, and mature trees and shrubs associated with residential land uses. Topographical relief along the project corridor is provided by fill associated with the freeway interchange. There are several scattered rural residences and the Pacific Gas and Electric Tracy Maintenance Station nearby. The remainder of the lands surrounding the interchange are agricultural. The Delta-Mendota Canal and large, lattice steel transmission line towers are common visible elements in the project study area. Views of the Diablo Range and Black Hills are a prominent focal point in the project study area. Scenic vista views of the Diablo Range and Black Hills are available from the elevated Mountain House Parkway bridge over I-205.

Current lighting in the project study area is associated with the existing development, overhead lighting along I-205 at the interchange, freeway sign lighting, ornamental street lighting on either side of the Mountain House Parkway bridge over I-205, and ornamental street lighting in the parkway’s median planter north of I-205.

Caltrans’ 2017 *List of Eligible and Officially Designated State Scenic Highways* identifies I-580, about 1.5 miles southwest of the project area, as an officially designated state scenic route that is protected for its scenic resources. I-580 is not visible from the project area.

Affected Viewer Groups

Neighbors (those who have views to the interchange) include people who live or work in the project area, including agricultural and Pacific Gas and Electric substation workers, and recreationists walking, jogging, or cycling along Mountain House/International Parkway. Nearby residents would be the primary viewers with extended viewing times of the project site and would have high visual sensitivity to the proposed project. Workers would be considered to have low visual sensitivity to changes resulting from the proposed project because they have intermittent views of the project site when not focused on work activities. Recreationists, who see the project area for short periods of time and in passing, are likely to view changes to the visual environment with higher sensitivity because views are often enjoyed while recreating.

Highway users (those who have views from the roadway) include local commuters, shoppers, and agricultural truckers and haulers of other goods on Mountain House Parkway and I-205. Highway users would be in contact with the project area for short periods and in passing. Roadways users on Mountain House Parkway can take in brief views of the surrounding landscape, but they are focused on approaching and traveling over the bridge, obeying traffic signals, turning onto freeway ramps, and observing the surrounding traffic. Roadways users on I-205 can take in momentary views as they pass the interchange at high speeds. Because of the minor changes associated with the proposed project, roadway users are considered to have low viewer response.

It is expected that the average response to visual changes in the project area of all viewer groups would be moderate.

Environmental Consequences

Effects of the Build Alternative

The proposed project is within a non-urbanized area and, therefore, would not conflict with applicable zoning and other regulations governing scenic quality associated with an urbanized area.

Existing Visual Character or Quality of Public Views in Non-Urbanized Areas, including Scenic Vistas

The visual character of the proposed project would be compatible with the existing visual character of the corridor. The bridge structure would not be affected, restriping would not alter the visual landscape, and widening the ramps would result in minor landform alterations along the ramp and road shoulders, only affecting grassy and already disturbed areas along the shoulders. To cross the bridge, northbound and southbound bicycle traffic would be conveyed across the bridge through a buffered Class 2 bike lane. To avoid vehicular conflict with pedestrian and bicycle traffic at the westbound off-ramp and westbound loop on-ramp intersections with Mountain House/International Parkway, pedestrian and bicycle traffic would use a grade-separated Class 1 bike trail that passes from the bridge structure and underneath the westbound off-ramp and westbound loop on-ramp and connects to Mountain House/International Parkway north of the ramp intersections with the roadway. This would result in minor landform alterations along the ramp and road shoulders, only affecting grassy and already disturbed areas along the shoulders.

The visual quality of the existing corridor would not be altered by the proposed project. The existing vividness, intactness, and unity would remain moderate and unaffected by the proposed project because the changes would be minor and would barely affect the visual landscape. Therefore, the overall visual quality would not change and would remain moderate.

Accordingly, the resource change (changes to visual resources as measured by changes in visual character and visual quality) would be low.

No scenic vistas would be affected. Scenic vista views of the Diablo Range and Black Hills from the Mountain House Parkway bridge over I-205 would not be altered in any way. The I-580 scenic route would not be affected by the project because of distance and because intervening development would prevent views from that distance.

The project would entail making minor modifications to the Mountain House Parkway Overcrossing and shifting the ramps that are north of I-205 slightly more north to accommodate the reconfiguration of the westbound on-ramps and off-ramps to northbound Mountain House Parkway and the grade-separated Class 1 bike trail. The ramps that are south of I-205 would be slightly widened. The relocated sidewalk, reconstructed medians, and restriping on Mountain House Parkway would not affect visual resources associated with the overcrossing because these are all existing elements within this view.

Widening the existing ramps, shifting the northern ramps, creating the grade-separated Class 1 bike trail, and completing other minor roadway and intersection improvements within the existing right-of-way would have minimal effects on viewers at the surrounding properties. The project would mostly widen into vacant lands and affect low-lying, grassy vegetation. However, construction would require the partial acquisition of lands for construction to accommodate the widened roadway and right-of-way, bringing roadway facilities and traffic closer to roadway neighbors. This would also require removal of formal and informal landscaping, fencing, and mailboxes and alter entry drives at the two residential properties on the east side of International Parkway, near the southern project end. These visual features contribute to providing an attractive appearance along the roadway, especially where vegetation provides seasonal interest such as in the spring and summer when shrubs are blooming and trees are in leaf. However, a minimization measure to replace or relocate site features and landscaping affected by the project would lessen impacts on affected properties to the best degree possible. A small portion of the gravel parking lot at the southeastern corner of the interchange would be converted to paved on-ramp. However, most of the gravel lot would remain intact.

Widening the ramps and constructing the grade-separated Class 1 bike trail would result in minor landform alterations along the ramps and road shoulders.

Improvements to the highway must comply with the Caltrans Highway Design Manual, which uses Context Sensitive Solutions consistent with Director's Policy DP-22. This approach includes implementing Design Standards 304.1, *Side Slope Standards*; 304.4, *Contour Grading and Slope Rounding*; 701.3,

Private Fences; and 902.1, *Design Considerations, Aesthetics*. These design standards require that slopes be graded to 4:1 or flatter; that slopes be gentle, smooth, and well transitioned with slope rounding and topsoil replacement; that slopes have flowing contours that tie gracefully into the existing adjacent roadside and landforms; that Caltrans will construct or pay the cost to replace fences on private property as a right-of-way consideration to mitigate damages; and that steep, obvious cuts and fills be avoided to improve project aesthetics associated with roadside slopes. These design standards require that replanting reflect adjacent communities and natural surroundings to soften visual impacts associated with graded slopes. The proposed project would comply with these standards. Compliance with these Highway Design Manual design standards would help to minimize visual impacts associated with retaining walls, roadside grading and slopes, and revegetating exposed slopes and would reduce impacts on the views associated with the interchange.

Light and Glare

Minimal nighttime construction is proposed, primarily for placement of k-rail for stage construction and limited demolition operations over I-205. These construction activities would require the use of extremely bright lights. However, Section 7-1.04 of Caltrans Standard Specifications requires that temporary illumination be installed in a manner that the illumination and the illumination equipment do not interfere with public safety. Therefore, city of Tracy staff, working with contractors, would make sure that no lighting is aimed towards homes and businesses or aimed in a manner that would affect roadway users traveling at night. The existing sources of permanent nighttime lighting would be slightly increased due to lighting and signalization of additional bridge lanes at the ramps. This additional lighting would be minor and would result in a negligible increase in nighttime lighting.

The amount of new pavement surfaces introduced because of the project would be minor and result in a negligible increase in daytime glare and would not be perceptible.

To minimize visual effects associated with project construction, Caltrans Highway Design Manual design standards would be implemented. An additional measure to replace or relocate site features and landscaping affected by the project would lessen visual impacts. Therefore, changes associated with the proposed project would be in keeping with the existing visual environment associated with the existing transportation facilities, as seen by all viewer groups at all locations, and would not have a substantial visual effect on these viewers with mitigation applied. Visual impacts would be low with implementation of the proposed mitigation.

No-Build Alternative

Under the No-Build Alternative, the proposed project would not be constructed and no visual impacts on the existing visual character, visual quality, or affected viewer groups would occur. However, if the project is not implemented, it is likely that an increase in traffic back-ups on Mountain House Parkway and the I-205 ramps would be visible due to population increases and expansions in industrial uses in the surrounding area.

Avoidance, Minimization, and/or Mitigation Measures

Replace or Relocate Site Features and Landscaping Affected by the Project

Where appropriate and to the best degree possible, landscaping and related appurtenances, such as mailboxes, and other similar features, removed from private properties because of construction would be relocated, replaced, or restored in place and in-kind to address visual impacts.

2.1.7 Cultural Resources

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 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. Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans went into effect for Department projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council on Historic Preservation’s regulations, 36 Code of Federal Regulations 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration’s responsibilities under the Programmatic Agreement have been assigned to

Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code 327).

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 Section 5024.1 established the California Register of Historical Resources and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the California Register of Historical Resources and, therefore, a historical resource. Historical resources are defined in Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 added the term “tribal cultural resources” to CEQA, and Assembly Bill 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 Public Resources Code Section 21074(a), a tribal cultural resource is a California Register of Historical Resources 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 Public Resources Code Section 21083.2.

Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way.

Affected Environment

The following discussion is based upon the Historic Property Survey Report and associated Historic Resources Evaluation Report, and Archaeological Survey Report completed for this project and submitted to the State Historic Preservation Office in October 2019. The State Historic Preservation Office concurred with the recommendations presented in these documents on November 26, 2019.

Area of Potential Effects

The area of potential effects for the project consists of the horizontal and vertical maximum potential extents of direct and indirect impacts that could result from the project. The area of direct impact (also called the archaeological area of potential effects) consists of the project footprint, construction areas, easements, and staging areas. The area of potential effects extends to encompass parcels that may be affected by noise, vibration, or visual impacts because project implementation. This area is sometimes called the architectural area of potential effects.

The vertical area of potential effects for the project ranges from minimal grading and trenching for wall foundations and road construction to

excavation of up to 10 feet for detention basins and utility line trenches. Piles would be driven to depths of up to 50 feet but would not be excavated.

The final area of potential effects was approved on August 20, 2019.

Methods

Cultural resources investigations for the area of potential effects included a records search, Native American consultation, contacting other interested parties, archaeological and architectural field surveys, and archaeological investigations.

Records Search

A records search (File Number 10394L) was conducted August 8, 2017 for the area of potential effects and a 0.5-mile buffer surrounding the area of potential effects at the Central California Information Center of the California Historical Resources Information System at California State University, Stanislaus in Turlock, California. Ten cultural resources studies have been conducted within the area of potential effects. These studies did not identify any cultural resources within the area of potential effects. Six previous investigations have been conducted within 0.5-mile of the area of potential effects. From those studies, two previously recorded cultural resources located within 0.5 mile of the area of potential effects were identified. The Delta-Mendota Canal (P-39-000089) is a historic built resource that is eligible for listing in the National Register of Historic Places and California Register of Historic Resources. The other is a historic artifact scatter (P-39-000344) that does not appear to be eligible for listing in the National Register of Historic Places or California Register of Historic Resources. The Mountain House Parkway Overcrossing (Bridge Number 29-0321) is listed as a Category 5 on the Caltrans Historic Bridge Inventory and is not eligible for listing in the National Register of Historic Places. The records search did not identify any known archaeological resources within the area of potential effects.

Native American and Other Interested Parties Consultation

Native American coordination efforts for Section 106 compliance were originally conducted in 2017, when the project was initiated, and updated in 2019.

On March 19, 2019, a sacred lands search and consultant list were requested from the Native American Heritage Commission. On March 26, 2019, the Native American Heritage Commission responded that their search of sacred land files failed to indicate the presence of Native American resources in the immediate project area but provided a list of Native American individuals and organizations to contact for additional information. Native American individuals and entities identified by the Native American Heritage Commission were sent letters on May 6, 2019. These included members of the California Valley Miwok Tribe; United Auburn Indian Community of the

Auburn Rancheria; North Valley Yokuts Tribe; Wilton Rancheria; Buena Vista Rancheria of Me-Wuk Indians; Lone Band of Miwok Indians; California Valley Miwok Tribe/Sheep Rancheria of Me-Wuk Indians of California. Follow up calls were made on May 13, 2019.

The United Auburn Indian Community and the California Valley Miwok tribe responded that they did not want to consult on this project, though the California Valley Miwok Tribe stated they would like to be informed if cultural materials are encountered. A follow-up call to the Lone Band of Miwok Indians was placed on May 25, 2019. At the request of Jeremy Dutschke, Cultural Committee Member, the original letter was resent.

Wilton Rancheria indicated in a letter dated May 13, 2019 that they would like to consult on the project, and the North Valley Yokuts expressed interest via an e-mail dated May 17, 2019. Both tribes have expressed interest in monitoring during construction due to sensitivity of the region.

On July 11, 2019, a draft of the Archaeological Survey Report was mailed to Katherine Erolinda Perez of the North Valley Yokuts and to Ed Silva of the Wilton Rancheria for comments. Surveys of the archaeological area of potential effects were negative for the presence of archaeological resources and the project is in an area of low sensitivity for buried archaeological sites. Because of concerns expressed by representatives of the Northern Valley Yokuts Tribe and the Wilton Rancheria about burials in the general vicinity of the project, a Caltrans archaeologist will spot-check the project during construction. If human remains are encountered, Caltrans would contact the Native American Heritage Commission and confer with the Most Likely Descendant pursuant to Public Resources Code Section 5097.98 regarding the treatment and disposition of human remains and associated grave artifacts.

On August 20, 2019, a revised area of potential effects map was sent to all tribal representatives after small changes were made in the length of the project.

As of October 18, 2019, no additional comments or request for consultation have been received from any of the tribes or tribal representatives.

On September 27, 2017, letters were sent to the San Joaquin County Historical Society and Museum, the Manteca Historical Society and Museum, and the Tracy Area Genealogical Society describing the project and requested information on potential cultural resources in the area of potential effects. Follow-up telephone calls with these interested parties were placed on October 13, 2017 and February 25, 2019. To date, no responses have been received.

Field Methods

An intensive pedestrian archaeological survey of the archaeological area of potential effects was conducted on March 12, 2019. One parcel, in the northwest quadrant (Assessor's Parcel Number 209-080-260) for which permission was not granted at the time, was subsequently surveyed on March 20, 2019.

A mixed survey strategy was employed, primarily because the archaeological area of potential effects is a combination of fallow agricultural fields, paved surfaces, and landscaped areas. About 10 percent of the archaeological area of potential effects is paved. The remaining area consists of open fields, mostly fallow agricultural fields. Ground visibility ranged from 0 to 100 percent in these areas. Areas immediately next to the highway were steep slopes consisting of fill material and, therefore, were not examined. The remainder of the archaeological area of potential effects was extensively disturbed from decades of agricultural activity. Open fields were surveyed using intensive survey techniques, with the archaeologist walking systematic transects no more than 16 feet (5 meters) apart. Areas with subsurface exposure (e.g., rodent burrows) were examined closely. Plow zones in fallow agricultural fields and drainage ditch sidewalls along roadsides provided some ground exposure.

Built-environment cultural resources were surveyed and recorded in the architectural area of potential effects on September 6, 2017 and February 8, 2019. The survey was conducted according to the guidelines established in Caltrans' *Standard Environmental Reference*, Volume 2—Cultural Resources, Chapter 7, *Built Environment Resources Evaluation and Treatment*, revised January 2, 2014. The survey effort included formal recording with digital photographs.

Environmental Consequences

Cultural Resources Identified

No archaeological resources were identified within or immediately next to the archaeological area of potential effects.

Two architectural built-environment properties were identified near the area of potential effects. The first, Pacific Gas and Electric Tracy Maintenance Station located at 24081 Mountain House Parkway, is a complex of four historic buildings and one modern building. The second is a rural Craftsman-style house built in 1929 at 23526 Mountain House Parkway. The house appears abandoned and is in an extreme state of disrepair.

Both properties were formally evaluated in accordance with CEQA Guidelines Section 15064.5(a)(2–3), using criteria outlined in Public Resources Code Section 5024.1. Both evaluations concluded that both properties are ineligible for listing in the National Register of Historic Places and California Register of

Historic Resources and are not considered to be historical resources for the purposes of CEQA. These properties are also not Section 4(f) resources.

Effects of the Build Alternative

There are no known cultural resources within the project area of potential effects eligible for listing in the National Register of Historic Places or California Register of Historic Resources. Both potentially historic built environment resources within the area of potential effects were determined ineligible for listing in the state or federal register and, therefore, are not historic properties.

Even outside of archaeologically sensitive areas, there is always the potential that buried cultural resources or human remains may be encountered during construction. Caltrans standard procedures to stop work in case of accidental discovery, described below, ensure that these potential impacts would not be adverse. Because of concerns expressed by representatives of the Northern Valley Yokuts Tribe and the Wilton Rancheria about burials in the general vicinity of the project, a Caltrans archaeologist will spot-check the project during construction.

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

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities will stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the California Native American Heritage Commission, which would then notify the Most Likely Descendent. At that time, the person who discovered the remains would contact Caltrans Professionally Qualified Staff so that they may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

No-Build Alternative

Under the No-Build Alternative, no construction would take place, no structures would be removed or built, and no ground-disturbing activities would take place. Therefore, there would be no effect on archaeological or built environment resources.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is necessary. Caltrans standard procedures, described above, would ensure that potential impacts would not be adverse.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 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 requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A. To comply, the following must be analyzed:

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

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

Affected Environment

The following discussion is based upon the Water Quality Assessment Report completed for the project in December 2019.

The project area is outside of the 100-year floodplain. The project area is located within Federal Emergency Management Agency Zone X (unshaded). Zone X (unshaded) areas have minimal flood hazard and usually are depicted on flood insurance rate maps as above the 500-year flood level.

Environmental Consequences

Effects of the Build Alternative

Construction Effects

Project construction activities may temporarily alter existing drainage patterns and result in temporary increases in the rate or amount of local surface runoff (on-site) and temporary flooding. Prior to rain, construction best management practices as identified in the stormwater pollution prevention plan would be in place to reduce temporary flooding. The proposed drainage would be similar to the existing drainage, with runoff directed by a combination of new and existing pipes, drainage inlets, and other storm drain facilities. The existing drainage pattern would be maintained, with flows draining into these ditches and channels. Drainage would ultimately be improved because the project

would result in new drainage infrastructure and connections to the existing storm drain system that serves the site.

Operational Effects

As part of the proposed project, new drainage ditches and pipe culverts would be installed, and the existing cross culverts would be extended. New drainage inlets are also proposed along Mountain House Parkway to capture roadway runoff. The project would maintain the existing drainage pattern. Runoff from the proposed project would drain to roadside ditches or infiltrate the ground and would not directly discharge into surface waters. Flows draining into ditches and channels discharge to the One-Hundred and Fifty-Five Canal or to open land that slowly slopes toward the Upper Main Canal.

New impervious surfaces can increase the volume and rate of surface runoff. An increase of 4.36 acres of impervious surface area would result from the interchange improvements. Potential new surface flows from the project would be designed to be similar to pre-project flows and the project area's existing drainage patterns would be maintained. Increases in stormwater flow volumes would be managed by directing flow to a combination of new and existing pipes, drainage inlets, and other storm drain facilities. To address additional flows from the additional impervious surface and to ensure that the proposed project does not exceed existing flow conditions, the project would include stormwater runoff best management practices to collect and retain or detain the additional flows within the project area, as required by the Caltrans municipal separate storm sewer systems permit and Statewide Storm Water Management Plan. Additional biofiltration swales, biofiltration strips, or detention basins located in the area between the ramps and I-205 would treat additional runoff from the new impervious surface. The project would be designed in accordance with the objectives of Caltrans' municipal separate storm sewer systems permit requirements and related stormwater requirements to reduce runoff.

To minimize increases in flow downstream of the project area, three detention basins are proposed to reduce stormwater flows exiting the roadway. The detention basins are designed to detain runoff volume from the new impervious surface to lessen a 100-year storm.

Flooding

The project area is in an area of minimal flood hazard, outside of the 100-year floodplain or a floodway. Floodplain encroachment is not expected. A drainage plan would be submitted for approval by the city of Tracy for on-site measures consistent with Tracy's Storm Water Management Program and other applicable stormwater standards and requirements. Drainage facilities would accommodate events up to and including a 100-year 24-hour storm. To treat runoff from additional new impervious surface, the project would have biofiltration swales, biofiltration strips, or detention basins, which would

reduce the volume of runoff entering the storm drainage system. New drainage structures would ultimately improve drainage patterns, and potential flooding would be no greater than existing conditions. The potential increase in impervious area would not cause on-site or off-site flooding.

Effects of the No-Build Alternative

Under the No-Build Alternative, there would be no construction and no changes to the hydrology of the site or the floodplain.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of construction best management practices based on guidance from several resources, including the Caltrans Stormwater Quality Handbook and the Statewide Storm Water Quality Practice Guidelines, no avoidance, minimization, or mitigation are necessary.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

The Clean Water Act makes the addition of pollutants to waters of the United States from any point source (any discrete conveyance such as a pipe or a human-made ditch.) unlawful unless the discharge complies with a National Pollutant Discharge Elimination System permit. The Clean Water Act also directs dischargers of stormwater from municipal, industrial and construction point sources to comply with the National Pollution Discharge Elimination System permit scheme. In California, the State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Boards (Regional Water Boards) are responsible for ensuring implementation and compliance with the provisions of the Clean Water Act. The following are important Clean Water Act sections.

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines for all surface water of the United States.
- 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 United States to obtain certification from the state that the discharge will comply with other provisions of the Clean Water Act. This certification is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the National Pollution Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Boards administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial and construction sources and municipal separate storm sewer systems.

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the United States Army Corps of Engineers.

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

The United States Army Corps of Engineers 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 United States Army Corps of Engineers’ Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the United States Army Corps of Engineers decision to approve is based on compliance with United States Environmental Protection Agency’s Section 404 (b)(1) Guidelines (40 Code of Federal Regulations Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the United States Environmental Protection Agency in conjunction with the United States Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the United States Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the United States and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the United States. Every permit from the United States Army Corps of Engineers, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 Code of Federal Regulations 320.4. A discussion of the least environmentally damaging practicable alternative determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California’s Porter-Cologne Act provides the legal basis for water quality regulation within California. This act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or gaseous) to land or surface waters

that may impair beneficial uses for State surface or groundwater resources. Waters of the state include groundwater and surface waters not considered waters of the United States. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements, which may be required even when the discharge is already permitted or exempt under the Clean Water Act. The California State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and are included in the applicable Regional Water Quality Control Board Basin Plan. In California, Regional Water Quality Control Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses.

Water quality in surface and groundwater bodies is regulated by the California State Water Resources Control Board and the Regional Water Quality Control Boards. The project site is under the jurisdiction of the Central Valley Regional Water Quality Control Board. The Central Valley Regional Water Quality Control Board implements the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins, a master policy document for managing water quality in the region. The Basin Plan specifies the beneficial uses that apply to the project area. Once beneficial uses are designated, appropriate water quality objectives can be established, and programs that maintain or enhance water quality can be implemented to ensure the protection of beneficial uses. The water quality standards developed for particular water segments are based on the designated use and vary depending on that use. The California State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with Clean Water Act 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 (National Pollution Discharge Elimination System permits or Waste Discharge Requirements), the Clean Water Act requires the establishment of total maximum daily loads. Total maximum daily loads specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer System Permit

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of storm water discharges, including municipal separate storm sewer systems. A municipal separate storm sewer system 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 California State Water Resources Control Board has identified the Caltrans as an owner/operator of a municipal separate storm sewer system pursuant to federal regulations. The Caltrans Municipal Separate Storm Sewer System permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The California State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Projects disturbing less than 1.0 acre are covered by Caltrans Statewide Municipal Separate Storm Sewer System, National Pollutant Discharge Elimination System permit. Caltrans projects that create at least 1 acre of new impervious surface are subject to post-construction treatment control requirements of the Caltrans Municipal Separate Storm Sewer System permit. The Caltrans Municipal Separate Storm Sewer System permit, National Pollutant Discharge Elimination System No. CAS000003, State Water Board Order No. 2012-0011-DWQ, as amended by Order No. 2014-0006-EXEC, Order No. 2014-0077-DWQ, and Order No. 2015-0036-EXEC, contains three basic requirements.

1. Caltrans must comply with the requirements of the Construction General Permit (see below).
2. Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges.
3. Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices to the Maximum Extent Practicable, and other measures deemed necessary by the State Water Board or other agency having authority for reviewing the stormwater component of a project.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges, and outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management practices. The proposed project would be programmed to follow the guidelines and procedures outlined in the latest Storm Water Management Plan.

Construction General Permit

Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ, issued by the State Water Board) regulates stormwater discharges from construction sites that have a disturbed soil area of 1 acre or greater. Construction activity that results in soil

disturbances of less than 1 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 Regional Water Quality Control Board. Operators of regulated construction sites are required to develop stormwater pollution prevention plans; 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 (murkiness) 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 stormwater pollution prevention program. In accordance with Caltrans' Storm Water Management Plan and Standard Specifications, a Water Pollution Control Program is necessary for projects with disturbed soil area less than one acre.

Waste Discharge Requirements

All projects resulting in discharges, whether to land or water, are subject to Section 13260 of the California Water Code. Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state, other than into a community sewer system, shall file a Report of Waste Discharge from the appropriate Regional Water Quality Control Board. The Regional Water Quality Control Board issues Waste Discharge Requirements in lieu of a Section 401 Water Quality Certification for activities such as dredging or filling that impact waters of the state that are not also waters of the United States. Waste Discharge Requirements can be issued to address both permanent and temporary discharges of a project.

The California State Water Resources Control Board issued Water Quality Order No. 2004-0004-DWQ, which established statewide general Waste Discharge Requirements for projects that involve dredge or fill discharges of (1) less than 0.2 acre and 400 linear feet of fill and excavation discharges, and (2) not more than 50 cubic yards of dredging discharges. Projects that exceed the general waste discharge requirements thresholds are authorized under a standard waste discharge requirement, which requires approval by the Regional Water Quality Control Board.

Waste Discharge Requirements for Dewatering and Other Low-Threat Discharges to Surface Waters

Although small amounts of construction-related dewatering are covered under the Construction General Permit, the Central Valley Regional Water Quality

Control Board (Central Valley Water Board) has also adopted a general dewatering permit, Waste Discharge Requirements for Dewatering and Other Low Threat Discharges to Surface Waters (Low-Threat General Order) (Order R5-2013-0074). The Low-Threat General Order contains waste discharge limitations and prohibitions similar to those in the Construction General Permit. To obtain coverage, the applicant must submit a Notice of Intent and a Pollution Prevention and Monitoring and Reporting Plan to the Central Valley Water Board. The Pollution Prevention and Monitoring and Reporting Plan must include a description of the discharge location, discharge characteristics, primary pollutants, receiving water, treatment systems, spill prevention plans, and other measures necessary to comply with discharge limits. For dewatering activities not covered by the Low-Threat General Order, an individual National Pollutant Discharge Elimination System permit and waste discharge requirements must be obtained from the Central Valley Water Board.

Low-threat discharges are regulated by the Central Valley Water Board under the regional Low-Threat General Order. Discharges covered by this Low-Threat General Order are either 4 months or less in duration or average less than 0.25 million gallons per day. A Notice of Intent and Report of Waste Discharge must be submitted to the Central Valley Water Board to comply with this Low-Threat General Order. Effluent limitations for all discharges are specified for several specific compounds including total suspended solids, turbidity, biological oxygen demand, oil and grease, settleable solids, and residual chlorine.

The Caltrans 2014 Field Guide to Construction Site Dewatering provides the Resident Engineer with step-by-step instructions for overseeing dewatering operations on the construction site. All aspects of dewatering are addressed, from the selection of an appropriate dewatering management option to ensuring compliance with National Pollutant Discharge Elimination System permit requirements for operations, maintenance, and reporting.

Regional and Local Requirements: Water Quality Control Plan

The proposed project lies within the jurisdiction of the Central Valley Water Board, which adopted the *Fifth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins* in 2018. The Central Valley Water Board uses planning, permitting, and enforcement authorities to meet the responsibility of adopting the Basin Plan to implement plans, policies, and provisions for water quality management. Beneficial uses are described in the Basin Plan and are designated for major surface waters and their tributaries, as well as for groundwater.

Affected Environment

The following discussion is based upon the Water Quality Assessment Report completed for the project in December 2019.

The project area is in the Old River watershed, within the larger San Joaquin Delta watershed. The project area is located less than 0.5 mile northeast of the Delta-Mendota Canal and less than one mile northeast of the California Aqueduct. One ephemeral drainage, about 15 feet wide, at the northern end of the project area conveys surface runoff from adjacent roads.

West of Mountain House Parkway, runoff drains to roadside ditches that discharge north of the interchange to the One-Hundred and Fifty-Five Canal. Runoff from areas east of Mountain House Parkway drains to open areas and infiltrates the ground prior to reaching the Upper Main Canal. Neither the One-Hundred and Fifty-Five Canal nor Upper Main Canal is listed on the Section 303(d) list of impaired water bodies. The project area is located about 2.5 miles southeast of Mountain House Creek. Mountain House Creek (from Altamont Pass to Old River, Alameda and San Joaquin Counties; partly in Delta Waterways, southern portion) is impaired for chloride and salinity. The project area is also about 4 miles south of the Old River. The Old River (San Joaquin River to Delta-Mendota Canal; in Delta Waterways, southern portion) is impaired for chlorpyrifos, electrical conductivity, low dissolved oxygen, and total dissolved solids. Both Mountain House Creek and the Old River are listed for agricultural impairments and are part of the Delta Mercury Control Program; however, the project is not anticipated to affect these waterbodies because of their distance from the interchange. There are no surface water bodies in the project area with beneficial uses.

The California Aqueduct, and Delta-Mendota Canal are not listed on the Section 303(d) list of impaired water bodies. Beneficial uses of California Aqueduct water include municipal and domestic water supply, agricultural supply, industrial process supply, industrial service water supply, hydropower generation, water contact recreation, noncontact water recreation, and wildlife habitat. Beneficial uses of Delta-Mendota Canal water include municipal and domestic water supply, agricultural supply, water contact recreation, noncontact water recreation, warm freshwater habitat, and wildlife habitat. Water quality objectives are specified for inland surface waters within the Sacramento-San Joaquin Delta and consist of numerical and/or narrative criteria, as specified in the Central Valley Water Board's Basin Plan.

The project area is in the Tracy Subbasin of the larger San Joaquin Valley Groundwater Basin. Groundwater within the basin is often of poor quality. Occasional zones of freshwater are also found in the Delta portion of the subbasin, but this portion of the subbasin generally contains poor quality groundwater. Groundwater was documented at 35 feet below ground surface about 1.5 miles southeast of the project area and 50 feet below ground surface about 1 mile northwest of the project area.

The source of groundwater recharge influences groundwater quality. Generally, groundwater from Sierra Nevada runoff has lower concentrations of total dissolved solids and is found in some wells on the eastern side of the

basin. Groundwater from Coast Ranges runoff can have varying water quality depending on the geology of the watershed. Runoff from watersheds dominated by the Franciscan Complex (mostly metamorphic rock) generally has low concentrations of total dissolved solids, whereas runoff from watersheds dominated by marine sedimentary deposits generally has high concentrations of total dissolved solids and sulfate. All groundwaters in the region are considered suitable or potentially suitable, at a minimum, for beneficial uses of municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

Environmental Consequences

This section discusses impacts on water quality that could result during construction and operation of the proposed project. Construction activities would include grading, paving, striping, material stockpiling and storage at staging areas, and installing new drainage ditches and inlets. Operation-related water quality impacts would primarily be related to vehicle use and maintenance activities along the roadway.

Effects of the Build Alternative

Construction Effects

Construction activities could result in temporary surface water and groundwater quality impacts. Temporary impacts could be associated with the input of sediment loads that exceed water quality objectives or chemical spills into storm drains or groundwater aquifers if proper minimization measures are not implemented. A typical construction site contains many chemicals or compounds including gasoline, oils, grease, solvents, lubricants, and other petroleum products. Land-disturbing activities and the placement of stockpiles in proximity to storm drain inlets or nearby surface waters may result in a temporary increase in sediment loads in surface waters. The delivery, handling, and storage of construction materials and wastes (e.g., concrete debris), as well as the use of heavy construction equipment, could also result in stormwater contamination, thereby affecting water quality. Construction activities may involve the use of chemicals and operation of heavy equipment, which could result in accidental spills of hazardous materials (e.g., fuel and oil) during construction activities. Such spills could enter the groundwater aquifer or nearby surface water bodies from runoff or storm drains. Introduced pollutants or toxic chemicals have the potential to violate water quality standards or Waste Discharge Requirements.

Efforts would be made to conduct the majority of land-disturbing work outside of the typical wet season, which would minimize the potential for large rain events to mobilize loose sediment during construction. As part of compliance with the Construction General Permit, standard erosion and sediment control measures and other housekeeping best management practices related to vehicle and equipment maintenance, material delivery and storage, and solid waste management would be identified in the stormwater pollution prevention

plan. These measures would be implemented during construction to reduce contamination and sedimentation in waterways. Commonly practiced best management practices consist of a wide variety of measures, such as installing fiber rolls, that can be implemented to reduce pollutants in stormwater and other non-point source runoff.

The stormwater pollution prevention plan would require the construction contractor to regularly inspect and maintain the best management practices to ensure they are in good working order. The contractor would implement appropriate hazardous material management practices, spill prevention, and other good housekeeping measures to reduce the potential for chemical spills or releases of contaminants, including any non-stormwater discharge to drainage channels. Implementation of these measures would minimize the potential for surface and groundwater contamination.

Potential water quality impacts from construction activities would be avoided or minimized because all construction activities within the ephemeral drainage would comply with permits and requirements from agencies, including those of the California State Water Resources Control Board, Central Valley Water Board, San Joaquin County, and the city of Tracy. Because the proposed project involves disturbance of more than 1 acre of land, compliance with the Construction General Permit would be required. Caltrans would implement construction best management practices based on guidance from several resources, including the Caltrans Stormwater Quality Handbook. During construction, effective combinations of temporary and permanent erosion and sediment controls would be implemented. The project would also comply with all construction site best management practices specified in the stormwater pollution prevention plan.

Operational Effects

Long-term impacts are typically related to the addition of impervious surface and associated polluted surface runoff. A total area of 4.36 acres of additional impervious surface would result from the proposed interchange improvements. Stormwater runoff may contain sediment from soil erosion, oils and grease generated from motor vehicles, and heavy metals. However, the types of pollutants and pollutant sources related to vehicle use and roadway maintenance activities would be like existing conditions.

Long-term water quality impacts may also result from operation and maintenance activities, such as highway, overcrossing, and culvert maintenance and inspections. Heavy metals, oil, grease, and polycyclic aromatic hydrocarbons are common pollutants in road runoff. Roadside landscaping can also introduce pesticides and fertilizers; however, mobilization of these nutrients would be temporary. These and other contaminants are conveyed by rainfall and enter storm drains or waterbodies or infiltrate shallow groundwater. Urban runoff from vehicles on bridges can be discharged into streams during rain events and through normal usage and

aging. However, runoff during heavy storms would cause these pollutants to be diluted.

The proposed project is unlikely to result in water quality impairments because runoff from the proposed project would drain to roadside ditches or infiltrate the ground and not directly discharge into surface waters. Although the Old River (San Joaquin River to Delta-Mendota Canal; in Delta Waterways, southern portion) is impaired for low dissolved oxygen, the project drainage area is not hydrologically connected to the Old River and would not affect surface water quality in the Old River. The proposed project is unlikely to result in water quality impairments, such as dissolved oxygen and temperature, at levels detrimental to aquatic life in other waterbodies in the project area.

The proposed project would comply with the Caltrans Municipal Separate Storm Sewer System permit and Storm Water Management Program, and the San Joaquin County Storm Water Management Program. Caltrans would ensure that stormwater pollution during operation and maintenance of the project would be minimal by implementing post-construction best management practices for pollutant source control. Standard facilities used to handle stormwater on-site would be an array of structural elements or facilities that would serve to manage, direct, and convey the stormwater. Potential permanent treatment best management practices to treat runoff from the additional impervious area include biofiltration swales, biofiltration strips, or detention basins.

Because the project would create disturbed soil area, Caltrans Municipal Separate Storm Sewer System permit Provision E.2.d.1, Design Pollution Prevention Best Management Practices, is applicable to meet the post-construction treatment requirements for the project. Pollution prevention best management practices in Provision E.2.d would also be applicable, including landscape and soil-based best management practices such as providing compost-amended soils, and vegetated strips and swales, and conserving natural areas, including existing trees and stream buffer areas, to the extent feasible. However, under the Caltrans Municipal Separate Storm Sewer System permit, the project is not required to have post-construction treatment controls under the Construction General Permit, such as permanent design or structural features. The proposed biofiltration swales, biofiltration strips, or detention basins would be capable of treating runoff from all the new impervious area created by the project.

After interchange improvements are complete, stormwater would be drained by a combination of new and existing pipes, drainage inlets, and other storm drain facilities. The new and improved drainage features would capture roadway runoff and minimize the potential for discharges of pollutants to nearby storm drainages and local canals. Caltrans is required to consider treatment best management practices because the project involves new

construction and the creation of more than 1 acre of new impervious area. Biofiltration swales and biofiltration strips would be designed to carry runoff during a peak storm and to reduce or avoid water quality impacts. The interchange improvements would also incorporate permanent erosion control elements, such as permanent vegetation, to ensure that stormwater runoff does not cause soil erosion.

Caltrans would ensure that stormwater pollution during operation and maintenance of the project would be minimal by implementing design measures recommended in Caltrans guidance documents and post-construction best management practices. Standard facilities used to handle stormwater on-site would include elements or facilities to manage, direct, and convey the stormwater. These would include biofiltration swales and biofiltration strips at feasible locations in the area between the ramps and I-205 that would be determined during the design phase. The design requirements for stormwater quality best management practices would be based on current Caltrans methodologies. Overall, post-construction runoff is not expected to have an adverse effect on water quality in comparison with existing conditions.

Effects of the No-Build Alternative

Under the No-Build Alternative, there would be no construction and, therefore, no potential to affect water quality as a result of construction. There would be no changes to impervious surfaces and, therefore, no changes to stormwater runoff or groundwater recharge.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of construction best management practices based on guidance from several resources, including the Caltrans Stormwater Quality Handbook and the Statewide Storm Water Quality Practice Guidelines, no avoidance, minimization, or mitigation measures are necessary.

2.2.3 Geology, Soils, Seismicity and Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under 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’ Seismic Design Criteria. The Seismic Design Criteria provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic

performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Caltrans Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

Affected Environment

The following discussion is based upon the Preliminary Geotechnical Report completed for the project in October 2019. To identify potential impacts within the project area, environmental databases and historical aerial photographs and maps were reviewed and a site visit was conducted.

Topography

The project area's topography is generally gently to moderately sloping to the northeast. The Mountain House Parkway Overcrossing was constructed in the 1960s and 1970s and includes cut and fill, with a graded incline of 2:1.

Regional Geology

The project area is in western San Joaquin County, in the westernmost stretches of the city of Tracy's sphere of influence. The interchange sits on thousands of feet of alluvium transported from the Sierra Nevada and Coastal Range mountains. The alluvial material generally consists of gravel, sand, and clay from the Holocene age.

Seismicity

Ground shaking potential at the project area is moderate.

Faulting

The potential for surface rupture at the project area is low. The site is not located within an Alquist-Priolo Earthquake Fault Zone and the nearest active fault is more than 0.5 mile to the southeast of the project area.

Tsunamis and Seiches

There is no risk of tsunamis or seiches because the project area is not located near an ocean or lake.

Soil and Groundwater Conditions

The groundwater table in the project area is considered to be relatively low. A recent study determined groundwater to be more than 40 feet below grade; however, water had been encountered in 1964 as shallow as 15 feet below grade. The shallow water was determined later to be due to localized seepage likely from the California Aqueduct or the Delta-Mendota Canal.

The soil found in the above-mentioned investigations were consistent with geological mapping for the area. The survey consisted of two rotary borings and one cone penetration boring to maximum depths of about 82 feet or less. Soil bores resulted in about 15 feet of very soft to hard sandy clays near the

surface, medium dense to dense silty sands from 15 feet down to 35 feet, and very stiff to hard silty clays from 35 feet and below.

Liquefaction Potential

There is a risk for liquefaction in the project area due to the relatively sandy soil that underlies the surface. Specifically, the soil found beneath the groundwater table consists of soils containing sand, which have the potential to become loose during strong ground shaking.

Environmental Consequences

Effects of the Build Alternative

The nearest active fault site is more than 0.5 mile southeast of the project area. Impacts on workers or the public due to surface rupture are not anticipated.

The ground-shaking potential for the project area is moderate. Future design-level geotechnical investigations and adherence to the Caltrans Highway Design Manual, as well as the California Building Code, would minimize any risk of structure collapse related to strong seismic shaking.

There is potential for seismically induced ground failure, including liquefaction, because of the generally sandy alluvial material underlying the project area. The future design-level geotechnical investigation and final design of the interchange would acknowledge the risk of liquefaction and the project would be designed in a way to prevent liquefaction (such as soil replacement, or limestone treatment).

Because of the topography of the project area, there is no risk of landslides. Soil erosion measures would be implemented to avoid loss of topsoil.

Standardized Measures

MINIMIZE IMPACTS FROM SEISMIC EVENTS

To minimize potential impacts from seismic events, the project would be constructed in accordance with all applicable Caltrans standards and regulations and designed for the maximum credible earthquake. All construction activities would adhere to current engineering practices and recommendations provided by a Geotechnical Engineer/Engineering Geologist.

MINIMIZE SOIL INSTABILITY

To minimize the potential for soil instability from shrink-swell potential, soils with high shrink-swell potential would be compacted at the highest moisture content possible. In general, fill slopes should be compacted to 90 percent relative compaction and 95 percent at bridge approaches. If retaining walls are needed, support generally can be achieved within engineered fill for

typical walls lower than about 15 feet high. Soil replacement, lime treatment, and post-tensioned foundations can be implemented to offset expansive soils.

Effects of the No-Build Alternative

Under the No-Build alternative, geological and seismic conditions of the project area would remain unchanged. No construction would take place and there would be no impacts related to geology or seismicity.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures that could be recommended in the Geotechnical Design Report to address the seismic and soil issues are described below.

Conduct Future Geotechnical Investigation

Additional subsurface exploration and laboratory testing would be conducted for project design. Once the final interchange design is complete, drilling and sampling would be conducted. The additional investigation would include the depth at which groundwater is encountered, soil depths, and collections of bulk and relatively undisturbed soil samples for laboratory testing. As new components of the interchange are built, the liquefaction potential of the alluvial material would need to be analyzed further in a design-level geotechnical investigation to ensure the interchange maintains its low liquefaction potential.

2.2.4 Paleontology

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life preserved in the geologic record as fossils. Several federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects:

- 16 United States Code 431 through 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.
- 16 United States Code 470aaa (the Paleontological Resources Preservation Act) prohibits the excavation, removal, or damage of any paleontological resources located on federal land under the jurisdiction of the Secretaries of the Interior or Agriculture without first obtaining an appropriate permit. The statute establishes criminal and civil penalties for fossil theft and vandalism on federal lands.

- 23 United States Code 305 authorizes the use of federal highway funds for salvage of paleontological resources by the highway department of any state, in compliance with 16 United States Code 431 through 433.

Under California law, paleontological resources are protected by CEQA.

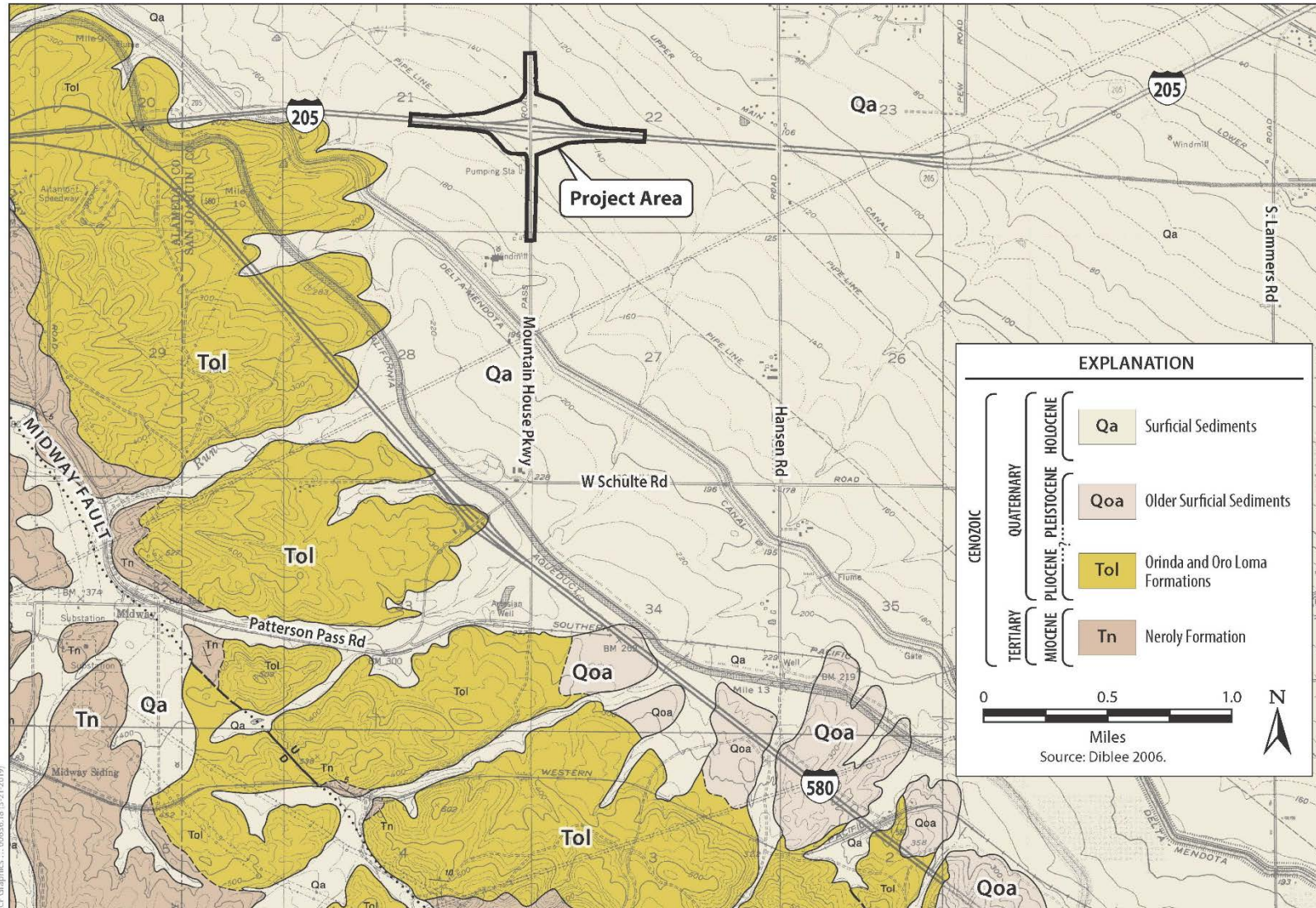
The California Public Resources Code also contains sections relevant to protection of paleontological resources. Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any “vertebrate paleontological site, including fossilized footprints,” on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands. The sections of the California Administrative Code relating to the California Department of Parks and Recreation afford protection to geologic features and “paleontological materials” but grant the director of the state parks system authority to issue permits for specific activities that may result in damage to such resources, if the activities are in the interest of the state parks system and for state parks purposes (California Administrative Code 4307 through 4309).

Affected Environment

The following discussion is based upon the September 2019 Paleontological Identification Report prepared for the project.

The project area is located at the west margin of the San Joaquin Valley, where geologically young and nearly flat-lying valley floor deposits meet alluvial fans developed along the east flank of the Diablo Range. The project area is underlain by two units: Holocene surficial sediments (Qa), which has no sensitivity to low sensitivity to contain paleontological resources, and artificial fill, which has no potential to contain paleontological resources (see Figure 2.2.4-1).

Figure 2.2.4-1. Geologic Map of the Project Area



Holocene Surficial Sediments (Qa)

The native substrate material underlying the entire project alignment are the Holocene surficial sediments (Qa). In the project area, these sediments are made up of alluvial fan deposits of Holocene age, which consist of moderately to poorly sorted and bedded sand, gravel, silt, and clay. Holocene alluvial fan deposits typically overlie Pleistocene alluvial fan deposits and locally form only a thin veneer atop the older strata; the depth to top Pleistocene in the project area is not known. Holocene deposits are not typically evaluated as paleontologically sensitive because biological remains are not considered fossils unless they are older than 10,000 years. The relevant paleontological database contains no records for fossil finds from Holocene units in San Joaquin County.

Deposits of Pleistocene age underlying the Holocene alluvial fan deposits are generally considered to have high sensitivity for paleontological resources, consistent with the prevailing standard of care because California's Pleistocene nonmarine strata have yielded a wealth of scientifically significant vertebrate fossils. Accordingly, continental deposits of Pleistocene age are almost universally treated as paleontologically sensitive in California. Demonstrating the potential for vertebrate finds in San Joaquin County Pleistocene units, the relevant database lists 29 records of vertebrate finds in San Joaquin county.

Artificial Fill

Artificial fill has been placed over native substrate materials for road construction along the alignment, below and next to the roadway. Artificial fill may locally be as much as 100 feet thick, but, based on a review of the Caltrans as-built plans (dated November 9, 2007), the local thickness is estimated to range from a thin veneer on the west side of the project area to about 20 feet on the east side of the project area. Artificial fill and disturbed land, hardscape, and agricultural land cover most of the project area and adjacent areas. Because it is not native material, artificial fill has no potential to contain paleontological resources.

Environmental Consequences

Effects of the Build Alternative

Consistent with standard professional practice and Caltrans protocols, the project's potential to result in damage or loss of paleontological resources was evaluated based on preliminary project design, consideration of geology, and the paleontological sensitivity of the geologic units potentially affected by the project.

It is expected that much of the project would involve grading less than 5 feet deep and would, therefore, be constructed primarily in artificial fill and Holocene alluvial fan deposits. However, construction of the grade-separated bicycle crossing, detention basins, wall foundations, and utility line trenches

would involve deeper excavation and, therefore, could achieve depths that has the potential to impact underlying deposits of Pleistocene age that could contain a paleontological resource.

If during the design phase it is determined that excavation would reach depths that could affect paleontological resources, preparation and implementation of a Paleontological Evaluation Report would be required, as described in the *Avoidance, Minimization, and/or Mitigation Measures* section below. For all excavations, contractors would be required to implement the provisions of Caltrans Standard Specifications Section 14-7, which includes a work stoppage and appropriate follow-up if paleontological resources are encountered during project construction. This would ensure avoidance and minimization of adverse effects on paleontological resources.

Effects of the No-Build Alternative

Under the No-Build Alternative, the project would not be built and there would be no construction-related effects on paleontological resources.

Avoidance, Minimization, and/or Mitigation Measures

Because ground disturbance during construction activities could disturb paleontological resources, the following avoidance, minimization, and mitigation measures would be implemented.

Comply with Caltrans Standard Specifications Section 14-7.

For all excavations, contractors will be required to implement the provisions of Caltrans Standard Specifications Section 14-7, which includes a work stoppage and appropriate follow-up if paleontological resources are encountered during project construction.

Write a Paleontological Evaluation Report and Prepare and Implement a Paleontological Mitigation Plan, If Needed.

Following the recommendation of the Paleontological Identification Report written for the proposed project, if during design phase it is determined that excavation would exceed five feet into original ground, than a Paleontological Evaluation Report would be written and (if necessary) a Paleontological Mitigation Plan would be developed for project implementation. If the Paleontological Evaluation Report determines there could be significant impacts on paleontological resources, a Paleontological Mitigation Plan would be required prior to the start of any construction activities. The Paleontological Mitigation Plan would consist of pre-construction, construction, and post-construction mitigation. Examples of mitigation activities to be incorporated into the final Paleontological Mitigation Plan would include the following:

Pre-Construction Mitigation

Designate a Principal Paleontologist—A Principal Paleontologist would be contracted to develop a detailed mitigation plan and supervise the paleontological mitigation program.

Construction Mitigation

- Retain full-time and on-call paleontology monitors—One or more paleontology monitors would be contracted to monitor construction-related excavation. Two individuals would be contracted to be on call to assist in the salvage of large specimens or fossil concentrations.
- Make repository arrangements—The Principal Paleontologist would conduct preliminary discussions with potential repository institution(s) to determine their needs and requirements for permanent conservation.
- Conduct monitoring during qualifying excavation—A paleontology monitor would be on-site during periods in which excavation into paleontologically sensitive geologic units (e.g., the Modesto Formation) is expected. Excavations into paleontologically sensitive geologic units extending more than 5 feet below the native soil surface are recommended for monitoring.
- Salvage specimens—Salvage of potentially significant specimens discovered on-site in excavated surfaces would be conducted by the monitor in compliance with all safety regulations and with the implementation of all feasible precautions.
- Stop work if significant resources are encountered—The monitor or Principal Paleontologist would have the authority to halt or redirect excavation operations in the event of the discovery of fossils.

Post-Construction Mitigation

- Prepare fossils according to repository agreement—Any potentially significant fossils recovered during the monitoring and salvage phase would be cleaned, repaired, and hardened to the level required by the repository institution and would be donated to that institution.
- Provide copies of field records to repository institution—Copies of all supporting field records, notes, maps, geologic sections, and photographs would be submitted to the repository institution in accordance with its policies.
- Prepare final report—The Principal Paleontologist would prepare a final report of the mitigation plan and its implementation and results, and would submit it to the appropriate parties, institutions, and government agencies.

2.2.5 Hazardous Waste and Materials

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.

Main federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of the Comprehensive Environmental Response, Compensation and Liability Act, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include the following:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 2088, 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 California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5

Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

Affected Environment

The following discussion is based upon the Initial Site Assessment completed for the project in December 2019.

The Phase 1 Initial Environmental Site Assessment, performed from May 7 to May 13, 2019, identified and evaluated potential hazardous waste sites. The work included the following tasks:

- Site visit and visual inspection of the project footprint.
- Review of previous environmental reports about the project site.
- Review of site background, including historic and recent aerial photographs, topographic maps, and Sanborn maps.
- Review of the government database of hazardous waste sites within a 1-mile radius.
- Review of area hydrogeology.
- Review of available agency records for the project site.
- Preparation of a written report summarizing the records search results.

The scope of work was limited to observation of the surface at a specific time, a limited aerial survey review, and environmental database research. No other particular limitations are noted in the Initial Environmental Site Assessment, which was prepared in accordance with generally accepted environmental assessment practices.

Database Search

Environmental Data Resources, Inc. searched federal, state, and local environmental databases for the project area and properties/facilities within 1 mile of the project area.

No records of properties that present a high environmental risk were noted within the project area or within 0.25 mile of the project area.

Site Reconnaissance

The project area was inspected on May 13, 2019 to examine present land uses and look for indications of hazardous materials use, storage, generation, or spills. The results of the site reconnaissance and historical and regulatory

file research have not indicated the potential presence of abandoned underground storage tanks within the project area. No monitoring or domestic water wells were identified in the project area.

Aerially deposited lead can be found in the surface and near-surface soils along nearly all roadways due to the historical use of tetraethyl lead in motor vehicle fuels. Areas of primary concern are soils along routes that have had high vehicle emissions from large traffic volumes or congestion during the period when leaded gasoline was in use (generally prior to 1986). The I-205 transportation corridor has had extensive exposure to historical automotive vehicle emissions. The potential exists for elevated lead levels from aerially deposited lead to be present in shallow soil in the project area. Yellow thermoplastic and paint striping, potentially containing lead chromate, was observed on roadway surfaces within the project limits. Suspect asbestos-containing materials and possible lead-containing paint may be present in bridge construction materials at the Mountain House Parkway overcrossing within the project area. Evidence of other potential hazardous waste impacts in the project area was not observed during the site reconnaissance.

Environmental Consequences

Effects of the Build Alternative

The Initial Environmental Site Assessment and site investigation report identified the following potentially hazardous materials/waste conditions:

- Soils in the project area may be impact with aerially deposited lead, petroleum hydrocarbons, and pesticides.
- The existing overcrossing may contain asbestos-containing materials.
- Lead-containing paint may be present on roadways and the existing over crossing.

Ground-disturbing activity, including excavation, associated with construction of the project may result in the disturbance of contaminated soils, which could expose workers and the public to hazardous materials or wastes. This exposure could pose a threat to human health.

Construction activities would include removal of roadbeds and restriping, as well as the removal of the existing sidewalk on the overcrossing. This activity could result in the exposure of construction workers and the general public to hazardous wastes or materials, including lead-containing paint and asbestos-containing materials. Lead-containing paint may be present in pavement markings and bridge components. Asbestos-containing materials may be encountered in pipes or in bridge components. Exposure to these materials could pose a threat to human health.

Effects of the No-Build Alternative

No construction would take place under the No-Build Alternative; therefore, there would be no potential to expose workers or nearby land uses to soil contamination or hazardous materials from construction activities. The No-Build Alternative would not require right-of-way acquisition or construction disturbance. The No-Build Alternative would not result in any direct effects regarding hazardous wastes or materials.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would ensure that the health of workers and the public are protected during construction of the project.

Conduct Soil Sampling and Testing for Other Hazardous Materials

A preliminary site investigation within the project limits consisting of systematic soil sampling for lead and screening level sampling for petroleum hydrocarbons and pesticides would be conducted to evaluate potential environmental impairments, and soil material management and possible disposal requirements. A bridge survey would be performed on the Mountain House Parkway Overcrossing for asbestos and lead paint.

Implement Health and Safety and Soil Management Plans

Contractors would be required to work under a health and safety plan and soil management plan. These plans would be prepared to address worker safety when working with potentially hazardous materials, including potential asbestos-containing materials, lead-based paint, soils potentially containing aerially deposited lead, pesticides, herbicides, and other construction-related materials within the project right-of-way. The plans would provide for identification of potential hazardous materials at the work site and for specific actions to avoid worker exposure.

To prevent exposure of workers and the public to contaminated soils, requirements as detailed under the July 1, 2016 Aerially Deposited Lead Agreement between Caltrans and the Department of Toxic Substances Control Agreement would be followed. Surface soils from potentially contaminated areas would be screened and contaminated soils disposed of appropriately. The Aerially Deposited Lead Agreement allows such soils to be safely reused within the project limits as long as all requirements are met. Soil excavated from the surface to a depth of 1 foot can be reused within the Caltrans right-of-way if covered with at least 1 foot of clean soil or pavement structure. If soil excavated from the top 1 foot would not be reused within the Caltrans right-of-way, then the excavated soil should be either: (1) managed and disposed of as a California hazardous waste, or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

If soils are to be moved from a roadway-adjacent parcel to another parcel, the project would conduct a preliminary investigation and screening for aerially deposited lead before construction to assess lead levels in the surface and near-surface soils along the project alignment. If soils contain aerially deposited lead in excess of established thresholds, soils would be disposed of in a manner compliant with the San Joaquin County Certified Unified Program Agencies regulatory requirements.

To protect workers and the public from lead exposure, pavement striping subject to construction disturbance or removal would be tested for lead-based paints prior to disturbance or removal. All aspects of the proposed project associated with removal, storage, transportation, and disposal of yellow pavement striping would be in strict accordance with appropriate regulations of the California Health and Safety Code. Disposal of the stripes would be at a Class 1 disposal facility. The responsibility for implementing this measure would be outlined in the contract between the city of Tracy and its contractors.

To prevent exposure of workers and the public to asbestos and lead, a hazardous materials survey would be conducted prior to demolition or significant renovation of any structures. If lead or asbestos is found in these structures, an abatement plan would be developed prior to removal or renovation. The abatement plan would provide for a California-certified asbestos consultant and California Department of Health Services-certified lead project designer who would prepare hazardous materials specifications for the abatement of the asbestos-containing materials and lead-containing paint. The specification would be the basis for selecting qualified contractors to perform the proposed asbestos and lead abatement work. A California-licensed asbestos abatement contractor would be retained to perform the abatement of any asbestos-containing construction materials and lead-based paint deemed potentially hazardous. Abatement of hazardous building materials would be completed prior to any work on these structures.

2.2.6 Air Quality

Regulatory Setting

The Federal Clean Air Act, as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency and the California Air Resources Board, set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards. The national and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide, nitrogen dioxide, ozone, particulate matter—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (suspended particulate matter) and particles of 2.5 micrometers and

smaller (fine particulate matter)—and sulfur dioxide. National and state standards exist for lead, and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The national and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA. In addition to this environmental analysis, a parallel “Conformity” requirement under the Federal Clean Air Act also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the United States Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan for attaining the National Ambient Air Quality Standards. “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 National Ambient Air Quality Standards, and only for the specific National Ambient Air Quality Standards that are or were violated. United States Environmental Protection Agency regulations at 40 Code of Federal Regulations 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for the National Ambient Air Quality Standards and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the National Ambient Air Quality Standards for carbon monoxide, nitrogen dioxide, ozone, particulate matter, and in some areas (although not in California), sulfur dioxide. California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except sulfur dioxide, and also has a nonattainment area for lead; however, lead is not currently required by the Federal Clean Air Act to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans and Federal Transportation Improvement Programs that include all transportation projects planned for a region over a period of at least 20 years (for the Regional Transportation Plan) and 4 years (for the Federal Transportation Improvement Program). Regional Transportation Plan and Federal Transportation Improvement Program 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 Federal Clean Air Act and the State Implementation Plan are met. If the conformity analysis is successful, the Metropolitan Planning Organization, the Federal Highway Administration and Federal Transit Administration make the determinations that the Regional Transportation Plan and Federal Transportation Improvement Program are in conformity with the State Implementation Plan for achieving the goals of the Federal Clean Air Act. Otherwise, the projects in the Regional Transportation Plan and/or Federal Transportation Improvement Program 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 Regional Transportation Plan and Federal Transportation Improvement Program 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 Regional Transportation Plan and Transportation Improvement Program; the project has a design concept and scope that have not changed significantly from those in the Regional Transportation Plan and Transportation Improvement Program; project analyses have used the latest planning assumptions and United States Environmental Protection Agency-approved emissions models; and in particulate matter areas, the project complies with any control measures in the State Improvement Plan. Additional analyses (known as hot spot analyses) may be required for projects located in carbon monoxide and particulate matter nonattainment or maintenance areas to examine localized air quality impacts.

Affected Environment

The following discussion is based upon the Air Quality Report completed for the proposed project in October 2019 and upon the Traffic Operations Analysis Report completed for the proposed project in August 2019.

Climate

The project area is in the San Joaquin Valley Air Basin, which consists of all of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties, as well as the western portion of Kern County. Air quality regulation in the basin is administered by the San Joaquin Valley Air Pollution Control District.

Ambient air quality is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. Climate within the San Joaquin Valley Air Basin is characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100 degrees Fahrenheit.

Although marine air generally flows into the basin from the Delta, the surrounding mountain ranges restrict air movement through and out of the valley. Wind speed and direction influence the dispersion and transportation of ozone precursors, suspended particulate matter, and carbon monoxide; the more wind flow, the less accumulation of these pollutants.

The vertical dispersion of air pollutants in the San Joaquin Valley Air Basin is limited by the presence of persistent temperature inversion (warm air over cool air). Because of differences in air density, the air above and below the inversion does not mix. Ozone and its precursors mix and react to produce higher concentrations under an inversion, which traps directly emitted pollutants such as carbon monoxide.

Precipitation and fog tend to reduce or limit pollutant concentrations. Ozone needs sunlight to form, and clouds and fog block the required radiation. Because carbon monoxide is slightly water soluble, precipitation and fog tend to reduce carbon monoxide concentrations in the atmosphere. Suspended particulate matter is somewhat washed from the atmosphere with precipitation. Annual precipitation in the valley decreases from north to south, with about 20 inches in the north, 10 inches in the middle, and less than 6 inches in the southern part of the valley. In general, amounts of suspended particulate matter washed from the atmosphere during heavy rains are small in comparison with the total ambient concentrations.

Criteria Pollutants and Regional Attainment

As noted earlier, the six criteria pollutants are ozone, carbon monoxide, particulate matter (including suspended and fine particulate matter), nitrogen dioxide, sulfur dioxide, and lead. Table 2.2.6-1 documents the current federal and state air quality standards and summarizes the sources and health effects of the criteria pollutants. The National Ambient Air Quality Standards are two-tiered: primary, to protect public health, and secondary, to prevent degradation of the environment (e.g., impairment of visibility and damage to vegetation and property).

Data collected at permanent monitoring stations throughout the state are used by the United States Environmental Protection Agency to identify regions as “attainment,” “nonattainment,” or “maintenance,” depending on whether the regions meet the requirements stated in the primary National Ambient Air Quality Standards. Nonattainment areas are imposed with additional restrictions as required by the United States Environmental Protection Agency. Different classifications of nonattainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the state on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the National Ambient Air Quality Standards. The attainment status of the project area for each of the criteria pollutant is listed in Table 2-1 in the Air Quality Study.

Table 2.2.6-1 shows the status of United States Environmental Protection Agency-approved state implementation plans that are relevant to the proposed project, including the state implementation plan objective and the status of budget adequacy findings by the United States Environmental Protection Agency on submitted implementation plans.

Table 2.2.6-1. Status of State Implementation Plans Relevant to the Project Area

Name/Description	Status
Ozone	Adopted June 2016
Suspended Particulate Matter	Adopted September 2007
Fine Particulate Matter	Adopted November 2018
Carbon Monoxide	Not Applicable
Nitrogen Dioxide	Not Applicable
Sulfur Dioxide	Not Applicable
Lead	Not Applicable

Ambient Air Quality

The existing air quality conditions in the project vicinity can be characterized by monitoring data collected in the region. Table 3-1 in the Air Quality Study lists air quality trends in data collected at the Tracy Municipal Airport (California Air Resources Board Number 39271) and Stockton-Hazelton Street (California Air Resources Board Number 39252) monitoring stations for 2015 to 2017. Located 6.5 miles southeast and 20 miles northeast of the project area, the Tracy Municipal Airport and Stockton-Hazelton Street monitoring stations are representative of the project area because their climate, topography, and urban setting are similar to those of the project area. During the 2015 to 2017 monitoring period, exceedances were recorded at the monitoring stations for the state one-hour ozone standard, state and federal eight-hour ozone standards, state suspended particulate matter standards, and state and federal fine particulate matter standards.

Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are near localized sources of toxics and carbon monoxide are of particular concern. Land uses considered to be sensitive receptors include homes, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. There are residences located within 15 to 20 feet of the project area.

Environmental Consequences

Regional Conformity

The proposed project is listed in the 2018 financially constrained Regional Transportation Plan, which was found to conform by the San Joaquin Council of Governments on June 28, 2018, and the Federal Highway Administration

and Federal Transportation Administration made a regional conformity determination finding on December 3, 2018. The project is also included in San Joaquin Council of Governments' financially constrained 2018 Regional Transportation Improvement Program and 2019 Federal Transportation Improvement Program adopted on December 14, 2017 and June 28, 2018, respectively. The Federal Highway Administration and Federal Transportation Administration approved Amendment Number 1 to the Regional Transportation Plan and Amendment Number 4 to the 2019 Federal Transportation Improvement Program on May 9, 2019. This amendment revised the project Opening Year from 2021 to 2022. Amendment Number 2 to the Regional Transportation Plan and Amendment Number 11 to the 2019 Federal Transportation Improvement Program revised the project Opening Year from 2022 to 2023. The San Joaquin Council of Governments board approved the amendment on September 26, 2019. Because Amendment Number 2 includes primarily open-to-traffic date updates, without crossing air quality horizon years, the amendment relies on the conformity analysis and determination for Amendment Number 1. The Federal Highway Administration and Federal Transportation Administration approved Amendment Number 2 to the Regional Transportation Plan and Amendment Number 11 to the 2019 Federal Transportation Improvement Program on November 20, 2019.

Based on Regional Transportation Plan analysis, the region will be in conformity with the State Implementation Plan, including this project, as described in 40 Code of Federal Regulations 93.109(l). The design concept and scope of the proposed project are consistent with the project design concept and scope used in the latest regional conformity analysis. The design concept and scope of the proposed project are consistent with the project description in the 2018 *Regional Transportation Plan/Sustainable Communities Strategy*, 2018 Regional Transportation Improvement Program, 2019 Federal Transportation Improvement Program, and the "open to traffic" assumptions of the San Joaquin Council of Governments' regional emissions analysis.

Project-Level Conformity

Because the project area is in the San Joaquin Valley Air Basin and is in a nonattainment area for fine particulate matter and a maintenance area for suspended particulate matter, a project-level hot spot analysis for particulate matter is required under 40 Code of Federal Regulations 93.109. The United States Environmental Protection Agency does not require hot spot analyses (either qualitative or quantitative) for those project types that are not listed in Section 93.123(b)(1) as a project of air quality concern. The United States Environmental Protection Agency defines projects of air quality concern as the following:

- (i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles.

- (ii) Projects affecting intersections that are at level of service D, E, or F with a significant number of diesel vehicles, or those that will change to level of service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.
- (iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.
- (iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.
- (v) Projects in or affecting locations, areas, or categories of sites which are identified in the particulate matter applicable implementation plan or implementation plan submission, as appropriate, as sites of exceedance or possible exceedance.

The proposed project would not result in construction of a new or expanded highway system that would have a significant number of or significant increase in diesel vehicles.

The proposed interchange modifications would improve vehicle flow through the I-205 westbound and eastbound ramp connections with Mountain House Parkway/International Parkway, as well as through the International Parkway/Road A intersection. Implementation of the project would not change average daily traffic or truck percentages at these locations relative to the No-Build Alternative. Tables 2.1.5-1, 2.1.5-2, 2.1.5-4 and 2.1.5-5 summarize peak hour level of service and delay at the three study area intersections under Opening Year (2023) and Design Year (2043) conditions, respectively.

The traffic analysis originally assumed the project would be open-to-traffic in 2022. However, a one-year delay from 2022 to 2023 would not materially affect the traffic operations analysis; therefore, the vehicle volumes and intersection analysis presented in the Traffic Operations Analysis Report for the proposed project is representative of Opening Year conditions in 2023.

As shown in Table 2.1.5-1, several vehicle lanes would be at level of service D or worse under Opening Year (2023) No-Build conditions. Implementation of the project would enhance traffic operations and facilitate vehicle movement on Mountain House Parkway/International Parkway, improving all vehicle lanes to level of service C or better. Vehicle delay would also be reduced for almost all travel lanes under the Build Alternative. Overall, both the eastbound and westbound ramp connections would operate at level of service B or better with implementation of the project.

Table 2.1.5-4 indicates that both International Parkway/Road A and the Mountain House Parkway/I-205 westbound ramps would operate at level of service F under Design Year (2043) No-Build conditions. Vehicle delay would exceed 150 seconds per vehicle at the westbound ramp connection and 400

seconds per vehicle at the Road A intersection. The poor traffic operation is primarily due to commuter traffic, which uses the I-205/Mountain House Parkway Interchange and Grant Line Road to bypass severe congestion on westbound I-205 during the morning peak period (5 a.m. to 9 a.m.) and eastbound I-205 during the evening peak period (3 p.m. to 7 p.m.). Commuter traffic results in long delays on mainline I-205 and heavy congestion at both intersections, particularly during the morning peak hours. Although both intersections would continue to operate at level of service F under the project, the proposed interchange improvements would alleviate congestion on westbound I-205 and significantly reduce intersection vehicle delay in almost all travel lanes. The project would reduce peak hour vehicle delay at International Parkway/Road A, which is the intersection with the highest truck volumes (9,074), by more than 76 percent during the morning peak hours and 46 percent during the evening peak hours, relative to No-Build conditions. This would reduce vehicle idling and localized particulate concentrations.

The improved I-205 westbound ramp operation would facilitate vehicle movement on southbound Mountain House/International Parkway and increase peak hour vehicle throughput at the International Parkway/I-205 Eastbound Ramps. Under No Build conditions, the heavy congestion on westbound I-205 and associated Mountain House Parkway ramp connection restricts vehicle flow on southbound Mountain House/International Parkway and access to International Parkway/I-205 eastbound ramps, resulting in only 57 percent intersection use during the morning peak hour and 46 percent intersection use during the evening peak hour. With implementation of the project, intersection use would improve to 85 percent during the morning peak hour and 75 percent during the evening peak hour.

The additional vehicles served during the peak hour would slightly worsen vehicle delay as more traffic is able to exit I-205 and reach this downstream intersection. Truck volumes through the I-205 eastbound ramp connection with International Parkway also would not increase, relative to No Build conditions (8,436 daily vehicles under both Build and No-Build conditions). The eastbound ramp connection is part of the overall I-205 interchange system, which would experience significant improvements in vehicle efficiency, flow, and movement with implementation of the proposed project. In particular, vehicle hours of delay and vehicle hours of travel would be dramatically reduced relative to No Build conditions, resulting in particulate matter reductions throughout the interchange system and at surrounding land uses.

The project does not include new or expanded bus, rail terminals, or transfer points. The project is not in, nor would it affect, an area or location identified in the 2018 or 2007 particulate matter State Implementation Plans. The project is not expected to introduce significant amounts of diesel truck traffic within the project area that would result in localized particulate matter hot spots.

The discussion provided above indicates that the Build Alternative would not be considered a project of air quality concern as defined by 40 Code of Federal Regulations 93.123(b)(1). The project underwent interagency consultation through the San Joaquin Council of Governments' interagency consultation process. The United States Environmental Protection Agency and Federal Highway Administration issued concurrence that the project is not a project of air quality concern on May 8, 2018 and May 14, 2018, respectively. A detailed particulate matter hot spot analysis was not completed because the Federal Clean Air Act and 40 Code of Federal Regulations 93.116 requirements are met without an explicit hot spot analysis.

Long-Term Criteria Pollutant Emissions

Long-term air quality impacts are those associated with motor vehicles operating on the roadway network, predominantly those operating in the project vicinity. Emissions of ozone precursors—reactive organic gases and nitrogen oxides—carbon monoxide, particulate matter, and sulfur dioxide, for existing year (2017), Opening Year (2023), and Design Year (2043) with and without project conditions were evaluated through modeling using the Caltrans Emission Factor model and vehicle activity data provided by the project traffic engineers, Fehr & Peers (in 2019). The United States Environmental Protection Agency approved Emission Factor 2014 (referred to by the industry name of EMFAC2014) on December 15, 2015 and EMFAC2017 on August 15, 2019. Consistent with Caltrans guidance, operational emissions were quantified using both EMFAC2014 and EMFAC2017 to support the project NEPA and CEQA documents, respectively. The EMFAC2014 analysis is presented below.

Analyses may continue to rely on EMFAC2014 to support project-level conformity determinations so long as the analysis was “begun before the end of the 12-month grace period, and if the final environmental document for the project is issued no more than three years after the issuance of the draft environmental document” (40 CFR 93.111(c)).

Table 2.2.6-2 summarizes the modeled emissions by scenario and compares emissions under the Build Alternative with emissions under the No-Build Alternative and existing conditions. The differences in emissions between with-project and without-project conditions represent emissions generated directly from implementing the Build Alternative. Vehicular emission rates are expected to lessen in future years because of continuing improvements in engine technology and the retirement of older, higher-emitting vehicles.

The emissions analysis presented in Table 2.2.6-2 indicates that operation of the Build Alternative under Design Year (2043) conditions would increase particulate matter emissions compared with existing conditions and would decrease reactive organic gas, nitrogen oxide, carbon monoxide, and sulfur dioxide emissions. These results are exclusively due to factors external to the

project. The increase in particulate matter would be due to background growth in vehicle miles traveled from 2017 to 2043, because particulate matter emissions would be primarily a function of vehicle miles traveled. The decreases in other pollutants are due to expected improvements in vehicle engine technology, fuel efficiency, and turnover in older, more heavily polluting vehicles, which reduces exhaust emissions.

Emissions effects resulting from implementation of the Build Alternative under Opening Year (2023) and Design Year (2043) conditions are obtained through a comparison of with-project emissions to without-project emissions. As shown in Table 2.2.6-2, implementation of the Build Alternative would result in no change in criteria pollutant emissions compared with No-Build conditions. This is because the project would not increase capacity on the mainline and would not result in new trips or daily vehicle miles traveled relative to the No-Build Alternative. Although average peak hour vehicle speeds through the I-205 Mountain House Parkway Interchange would improve as because of the proposed project, there would be minimal effects on overall daily vehicle miles traveled in the transportation study area, and consequently, no change in criteria pollutant emissions.

Table 2.2.6-2. Operational Criteria Pollutant Emissions (tons per year) ^a

Scenario/Analysis Year	Reactive Organic Gases	Nitrogen Oxides	Carbon Monoxide	Suspended Particulate Matter	Fine Particulate Matter	Sulfur Dioxide
Existing year (2017)	651	6,626	14,748	1,643	465	<1
Opening Year (2023) No-Build Alternative	401	3,822	9,285	1,719	454	<1
Opening Year (2023) Build Alternative	401	3,822	9,285	1,719	454	<1
Design Year (2043) No-Build Alternative	259	1,140	5,403	2,151	545	<1
Design Year (2043) Build Alternative	259	1,140	5,403	2,151	545	<1
Opening Year (2023) Build Alternative compared to Existing (2017)	-250	-2,804	-5,463	76	-11	<0
Design Year (2043) Build Alternative compared to Existing (2017)	-393	-5,486	-9,345	508	80	<0
Opening Year (2023) Build Alternative compared to No Build (2023)	0	0	0	0	0	0
Design Year (2043) Build Alternative compared to No Build (2043)	0	0	0	0	0	0

^a The emissions analysis was conducted using emission factors for 2022 conditions. Because the project would not open until 2023, and emission factors decline annually due to fleet turnover, actual emissions under Opening Year conditions will likely be lower than those presented above. However, the relative magnitude between build and No Build conditions would be the same.

As a surrogate for nitrogen dioxide emissions that would result from the proposed project, nitrogen oxide emissions were estimated for the existing (2017) baseline, the No-Build Alternative, and the Build Alternatives for Opening Year (2023) and Design Year (2043) using project-specific traffic data and EMFAC model. As shown in Table 2.2.6-2, the Build Alternative would have no effect on nitrogen dioxide emissions, relative to the No-Build Alternative. The Build Alternative would enhance traffic operations and facilitate vehicle movement through the I-205/Mountain House Parkway Interchange. Despite these operational improvements, the proposed project is not a capacity-increasing project and would not result in new trips, changes in vehicle mix, or vehicle miles traveled relative to the No-Build Alternative.

Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards, the United States Environmental Protection Agency also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories and refineries).

Federal Highway Administration released *Updated Interim Guidance on Mobile Source Air Toxics in NEPA Documents* in October 2016 for determining when and how to address impacts of mobile source air toxics in the NEPA process for transportation projects. The Federal Highway Administration identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful mobile source air toxic effects.
- Qualitative analysis for projects with low potential mobile source air toxic effects.
- Quantitative analysis to differentiate alternatives for projects with higher potential mobile source air toxic effects.

The purpose of this project is to reduce congestion and provide an acceptable level of service at the I-205/Mountain House Parkway Interchange for the projected traffic volumes that will result from planned development in the area. This project has been determined to generate minimal air quality impacts as a result of the Federal Clean Air Act criteria pollutant emissions. The proposed project would not result in substantial changes in traffic volumes or vehicle mix that would cause a meaningful increase in regional mobile source air toxic emissions compared with those of the No-Build Alternative.

However, under the proposed project, Caltrans would realign and reconstruct portions of the I-205/Mountain House Parkway Interchange, as well as widen Mountain House/International Parkway south and north of I-205. These

improvements could result in localized changes in mobile source air toxic emissions. The reconstructed ramps would have the effect of moving some traffic closer to nearby homes; therefore, under the proposed project, there may be localized areas where ambient concentrations of mobile source air toxics could be higher than under the No-Build Alternative. The localized increases in mobile source air toxic concentrations would likely be most pronounced along the westbound exit ramp and loop entrance and along Mountain House/International Parkway. However, the magnitude and the duration of these potential increases compared with the No-Build conditions cannot be reliably quantified because of incomplete or unavailable information in forecasting project-specific mobile source air toxic health impacts.

In sum, the localized level of mobile source air toxic emissions for the Build Alternative could be higher relative to the No-Build Alternative at specific locations, but the increase could be offset by increases in speeds and reductions in congestion (which are associated with lower mobile source air toxic emissions). However, on a regional basis, the United States Environmental Protection Agency's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide mobile source air toxic levels to be significantly lower than they are today.

Short-Term Construction Emissions

Site preparation and interchange construction involve clearing, cut-and-fill activities, grading, improving existing roadways, erecting ramps and elevated structures, and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction.

Construction emissions were estimated using the latest Sacramento Metropolitan Air Quality Management District's Road Construction Model, version 9.0. Although the model was developed for Sacramento conditions in terms of fleet emission factors, silt loading, and other model assumptions, San Joaquin Valley Air Pollution Control District considers the model adequate for estimating road construction emissions, and the model is used for that purpose in this project analysis.

Construction emissions were estimated for the Build Alternative using detailed equipment inventories and project construction scheduling information provided by the project designer. Construction-related emissions for the Build Alternative are presented in Table 2.2.6-3. The emissions presented are based on the best information available at the time of calculations. The emissions represent the peak annual construction emissions that would be generated during implementation of the Build Alternative.

Table 2.2.6-3. Build Alternative Construction-Period Emissions Estimates ^a

Year	Reactive Organic Gases (tons/year)	Nitrogen Oxides (tons/year)	Carbon Monoxide (tons/year)	Suspended Particulate Matter (tons/year)	Fine Particulate Matter (tons/year)	Sulfur Dioxide (tons/year)
Year 1	Less than 1	6	3	5	1	<1
Year 2	<1	3	2	1	<1	<1

Note: Emissions estimated using the Sacramento Metropolitan Air Quality Management District Road Construction Model, version 9.0 using project-specific data provided by design staff.

^a The emissions analysis was conducted using emission factors for 2021 and 2022 conditions. Because the project will now be constructed in 2022 and 2023, and emission factors decline annually due to fleet turnover, actual emissions will likely be lower than those presented above.

The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2018). Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances, which would reduce air quality impacts.

Compliance with San Joaquin Valley Air Pollution Control District rules (including preparation of a dust control plan) would reduce air quality impacts resulting from construction activities. Although these measures are expected to reduce construction-related emissions, the reductions cannot be quantified at this time.

Asbestos, Lead, and Valley Fever

Based on a 2011 map of reported historic asbestos mines, historic asbestos prospects, and natural occurrences of asbestos prepared by the United States Geological Survey and California Geological Survey, there are no geologic features normally associated with naturally occurring asbestos (i.e., serpentine rock or ultramafic rock near fault zones) in or near the project area. No bridges would be modified during construction. The overcrossing, which may contain asbestos, would be modified during construction. Testing for asbestos has not been conducted at the time of preparation of this report. It is not known whether the overcrossing structure contains asbestos. If asbestos is encountered, the project would comply with the United State Environmental Protection Agency's National Emission Standards for Hazardous Air Pollutants" regulations for asbestos (40 Code of Federal Regulations 61 Subpart M), and the California Air Resource Board's asbestos regulations.

Lead is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of aerially deposited lead, or painting or modification of structures with lead-based

coatings. Testing for aerially deposited lead has not been conducted at the time of preparation of this report. It is not known whether lead-based paint was used previously for striping on the existing interchange ramps or Mountain House/International Parkway. If lead is encountered, disturbance of lead paint must meet the United States Environmental Protection Agency and air district rules, pursuant to Caltrans Standard Specifications. There are no industrial lead sources within the immediate vicinity of the project.

Valley Fever is not an air pollutant but is a disease caused by inhaling *Coccidioides immitis* (*C. immitis*) fungus spores. The spores are found in certain types of soil and become airborne when the soil is disturbed. San Joaquin County is the 11th most affected county by Valley Fever in the state. Although several factors influence receptor exposure and development of Valley Fever, earthmoving activities during construction could release *C. immitis* spores if filaments are present and other soil chemistry and climatic conditions are conducive to spore development. Receptors within several miles of the construction area may be exposed to an increased risk of inhaling *C. immitis* spores and subsequent development of Valley Fever. Dust control measures identified in the United States Geological Survey's 2000 *Operational Guidelines (Version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever)* are the primary defense against infection. Implementation of the fugitive dust control plan outlined as minimization measures would avoid dusty conditions, and routine watering would reduce the risk of people contracting Valley Fever.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans and the City of Tracy will implement the following control measures to minimize air quality impacts from construction activities.

Implement Measures to Comply with San Joaquin Valley Air Pollution Control District Rule 9510

As required by San Joaquin Valley Air Pollution Control District Rule 9510, prepare and submit an air impact assessment to San Joaquin Valley Air Pollution Control District. The air impact assessment includes the calculation of emissions generated by the project and the emission reductions required by the provisions set forth in the rule. The air impact assessment must be submitted to San Joaquin Valley Air Pollution Control District no later than applying for final discretionary approval, and off-site mitigation fees, if applicable, must be paid to San Joaquin Valley Air Pollution Control District before issuance of the first grading/building permit, whichever comes first. Required on-site emission reductions and potential off-site emission reduction fees (if necessary) will be calculated through the permitting process, as dictated by Rule 9510, to reduce construction-related nitrogen oxide emissions by 20 percent and particulate matter 10 micrometers or smaller exhaust emissions by 45 percent, compared with the statewide fleet average.

Climate Change

Neither the United States Environmental Protection Agency nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. The Federal Highway Administration emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the CEQA chapter of this document. The CEQA analysis may be used to inform the NEPA determination for the project.

2.2.7 Noise and Vibration

Regulatory Setting

The NEPA of 1969 and the 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 would 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 CEQA noise analysis is discussed in Chapter 3 of this document.

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with the Federal Highway Administration (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 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 that are used to determine when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criteria for residences (67 A-weighted decibels) is lower than the noise abatement criteria for commercial areas (72 A-weighted decibels). Table 2.2.7-1, below, lists the noise abatement criteria for use in the NEPA 23 Code of Federal Regulations 772 analysis.

Table 2.2.7-1. Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, Hourly A Weighted Noise Level	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	67 (Exterior)	Residential (Includes undeveloped lands permitted for this activity category).
C	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossing (includes undeveloped lands permitted for this activity category).
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 Noise Abatement Criteria—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 Noise Abatement Criteria—reporting only	Undeveloped lands that are not permitted.

Figure 2.2.7-1, below, 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 2.2.7-1. 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 the Caltrans 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 12 A-weighted decibels or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 A-weighted decibels of the noise abatement criteria.

If it is determined that the project will 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.

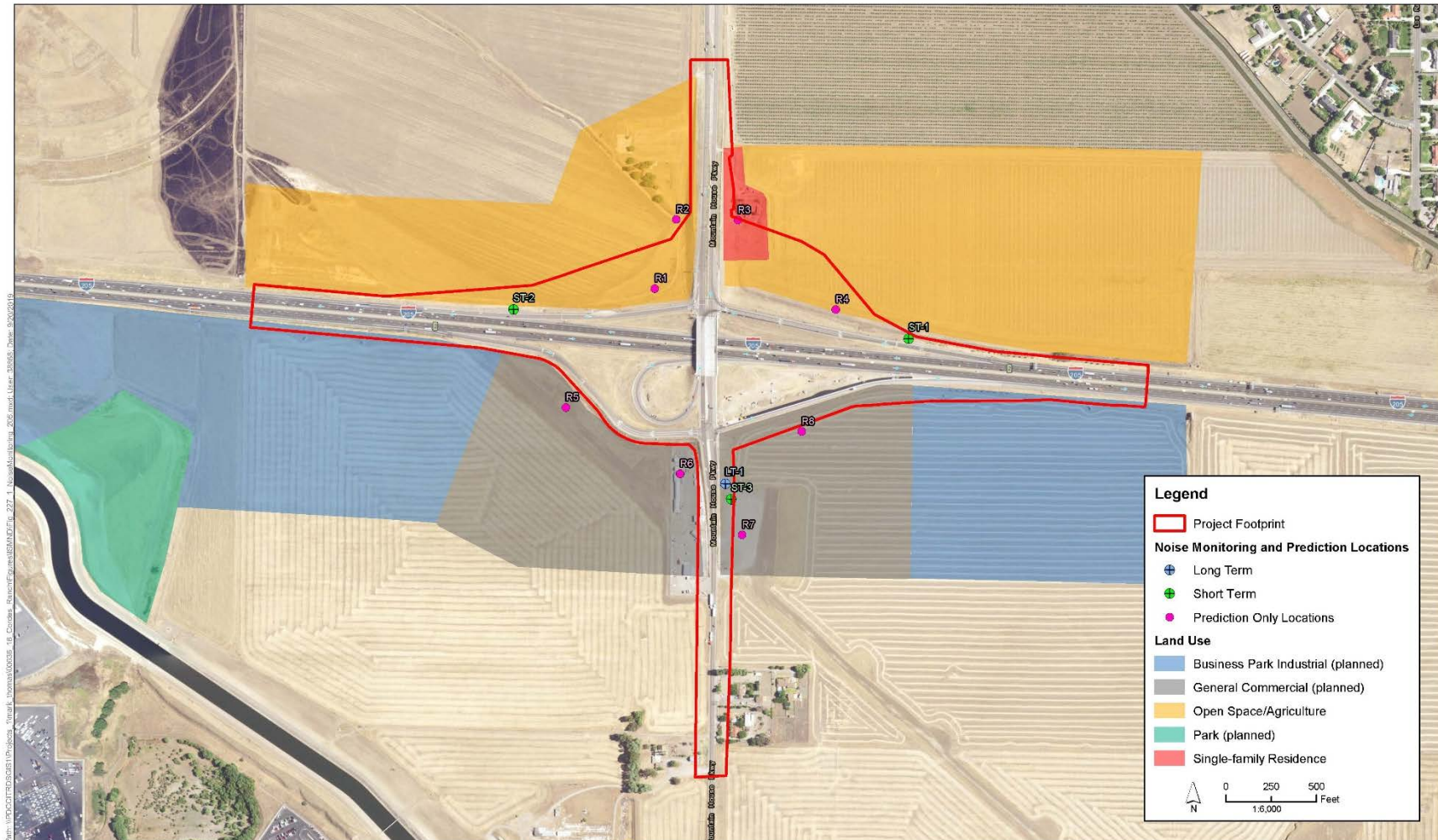
The Caltrans Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 7 A-weighted decibels reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis for implementation of noise abatement. Factors used in determining whether a proposed noise abatement measure is reasonable include residents' acceptance and the cost per benefited residence.

Affected Environment

The following discussion is based on the September 2019 Noise Study Report prepared for the project.

Land use in the project vicinity consists of open space (Activity Category G), agricultural use (Activity Category F), and planned areas of commercial use (Activity Category F) within the *Cordes Ranch Specific Plan* Area. The project area does not include apparent outdoor areas of frequent human use. Traffic on I-205 and Mountain House/International Parkway was observed to be the dominant source of noise in the study area. Modeled noise receptors are shown in Figure 2.2.7-2.

Figure 2.2.7-2. Noise Monitoring and Prediction Locations



Environmental Consequences

Effects of the Build Alternative

Operations Noise

Federal Highway Administration defines a Type 1 project as a proposed federal or federal-aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment of the highway. The proposed project is a Type 1 because it involves the addition of interchange ramps, and alteration of on-ramp and off-ramp locations and lane configurations, within an enlarged interchange footprint. The project would also increase the capacity of interchange ramps.

Because future traffic volumes in the project area are the same when comparing Build and No-Build Alternatives, increases in traffic noise are not a result of the project itself. Increases in noise levels are due to background growth and increases in traffic volumes from 2018 to 2043. Predicted traffic noise levels under Design Year (2043) conditions for the I-205/Mountain House Parkway Interchange are shown in Table 2.2.7-2, below. As shown in Table 2.2.7-2, predicted worst-case traffic noise levels for Design Year No Build conditions were found to have a range of values of 65 to 82 A-weighted decibels (the one-hour A-weighted equivalent sound level). Under Design Year conditions, predicted traffic noise levels were in a range of 67 to 81 A-weighted decibels (the one-hour A-weighted equivalent sound level). The model also predicted an increase of up to eight decibels in traffic noise levels in the Design Year compared with existing conditions. Because there are no noise abatement criteria values for Activity Category F or Activity Category G land uses, and the increase in noise levels would be less than 12 decibels, no traffic noise impacts are predicted under Design Year conditions.

In accordance with 23 Code of Federal Regulations 772, noise abatement is considered only for outdoor areas of frequent human use that would benefit from a lower noise level. Because traffic noise impacts are not predicted to result at any outdoor areas of frequent human use, noise abatement was not evaluated for this project.

Table 2.2.7-2. Impact Assessment and Predicted Noise Levels, I-205/ Mountain House Parkway Interchange Improvements

Receiver I.D.	Land Use/Activity Category	Location	Existing Noise Level (hourly A-weighted decibels)	Design Year Noise Level without Project (hourly A-weighted decibels)	Design Year Noise Level with Project (hourly A-weighted decibels)	Design Year Noise Level without Project minus Existing Conditions (hourly A-weighted decibels)	Design Year Noise Level with Project minus No Project Conditions (hourly A-weighted decibels)	Design Year Noise Level with Project minus Existing Conditions (hourly A-weighted decibels)	Activity Category (Noise Abatement Criteria)	Impact Type
ST1	F—Agriculture	I-205 interchange Northeast quadrant	78	82	81	+ 4	-1	+3	F	None
ST2	G—Open Space	I-205 interchange Northwester quadrant	78	82	Not applicable	+4	Not applicable	Not applicable	G	None
ST3	F—Planned Commercial	I-205 interchange Southeast quadrant	67	73	74	+6	+1	+7	F	None
LT1	F—Planned Commercial	I-205 interchange Southeast quadrant	68	74	75	+6	+1	+7	F	None
R1	G—Open Space	I-205 interchange Northwest quadrant	64	69	Not applicable	+5	Not applicable	Not applicable	G	None
R2	G—Open Space	Mountain House Parkway Southbound	61	67	67	+6	0	+6	G	None
R3	F—Agriculture	Mountain House Parkway Northbound	60	65	68	+5	+3	+8	F	None
R4	F—Agriculture	I-205 interchange Northeast quadrant	67	72	Not applicable	+5	Not applicable	Not applicable	F	None
R5	F—Planned Commercial	I-205 interchange Southwest quadrant	71	73	73	+2	0	+ 2	F	None
R6	F—Planned Commercial	Mountain House Parkway Southbound	66	72	72	+6	0	+6	F	None
R7	F—Planned Commercial	Mountain House Parkway Northbound	67	72	72	+5	0	+5	F	None
R8	F—Planned Commercial	I-205 interchange Southeast quadrant	65	69	70	+4	+1	+5	F	None

Construction Noise

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction activities would include demolition of existing facilities and building of new structures. Equipment operations associated with demolition and building activities would be a source of noise.

Construction noise is controlled by Caltrans Standard Specifications Section 14-8.02, "Noise Control," which states:

- Do not exceed 86 A-weighted decibels at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

Table 2.2.7-3, Construction Equipment Noise, below, summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 80 to 90 decibels at 50 feet, which would be reduced over distance at a rate of about six decibels per doubling of distance.

Table 2.2.7-3. Construction Equipment Noise

Equipment	Maximum Noise Level (A-weighted decibels at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

No adverse noise impacts from construction of the proposed project 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. Although not required, implementing the following recommended measures would minimize the temporary noise impacts from construction.

- All equipment will have sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.
- As directed by Caltrans, the contractor will implement appropriate additional noise reduction measures, including changing the location of stationary construction equipment, turning off idling equipment,

rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

No adverse impacts from construction of the project would be expected; therefore, no noise abatement measures were evaluated for this analysis.

Effects of the No-Build Alternative

Under the No-Build Alternative, no noise effects related to the project, resulting from traffic or construction, would occur. Future planned projects in the area, however, would result in an increase in traffic noise, as shown above in Table 2.2.7-2.

Avoidance, Minimization, and/or Noise Abatement Measures

No traffic noise impacts are predicted to occur from the proposed project. Therefore, noise abatement measures were not evaluated further in this analysis.

2.3 Biological Environment

2.3.1 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 United States Code 1344), is the primary law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States 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, in the absence of adjacent wetlands. When adjacent wetlands are present, Clean Water Act jurisdiction extends beyond the ordinary high water mark to the limits of the adjacent wetlands. To classify wetlands for the purposes of the Clean Water Act, 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 Clean Water Act.

Section 404 of the Clean Water Act 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 United States Army Corps of Engineers with oversight by the United States Environmental Protection Agency.

The United States Army Corps of Engineers 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 United States Army Corps of Engineers Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the United States Army Corps decision to approve is based on compliance with the United States Environmental Protection Agency's Section 404(b)(1) Guidelines (40 Code of Federal Regulations 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the United States Environmental Protection Agency in conjunction with the United States Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the United States Army Corps of Engineers may not issue a permit if there is a "least environmentally damaging practicable alternative" to the proposed discharge that would have lesser effects on waters of the United States, and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, Executive Order 11990 states that a federal agency, such as the Federal Highway Administration 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, the Regional Water Quality Control Boards and the California Department of Fish and Wildlife. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600 through 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 California Department of Fish and Wildlife before beginning construction. If

California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Wildlife 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 United States Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Boards 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 and may be required even when the discharge is already permitted or exempt under the Clean Water Act. In compliance with Section 401 of the Clean Water Act, the Regional Water Quality Control Boards also issue water quality certifications for activities which may result in a discharge to waters of the United States. This is most frequently required in tandem with a Section 404 permit request. Please see the Section 2.2.2, Water Quality and Storm Water Runoff, for more details.

Affected Environment

The following discussion is based upon the Natural Environment Study completed for the project in November 2019 and the Aquatic Resources Delineation Report, completed for the project in October 2019.

Delineation fieldwork in the biological study area discussed in the Natural Environment Study was conducted on March 12 and 14, April 2, and August 30, 2019. The delineation report was submitted to the United States Army Corps of Engineers, with a request for an Approved Jurisdictional Determination on March 9, 2020. The United States Army Corps of Engineers concurred with the determination on May 15, 2020.

Ephemeral Drainage

Two ephemeral drainages (0.11 acre) were mapped in the biological study area (see Figure 2.3.1-1). Both of the drainages are excavated features. Ephemeral Drainage Number 1 appears to have previously connected to the Mountain House Creek and was previously used as an irrigation canal. As demonstrated on the Google Earth imagery between August 2006 and June 2008 a large development project at the southern end of South Central Parkway, just northwest of the survey area, rerouted the waterway to a detention basin just southwest of the southern end of South Central Parkway. Ephemeral Drainage Number 1 was dry at the time of the 2019 field surveys. The ephemeral drainage no longer connects to the Mountain House Creek and appears to no longer function as an ephemeral drainage.

A second ephemeral drainage (Ephemeral Drainage Number 2) was identified just south of Ephemeral Drainage Number 1. The ephemeral drainage flows into a large concert culvert just north of I-205 and south of Ephemeral Drainage Number 1. The drainage had standing water at the time of the survey but no wetland vegetation. The northern portion of Ephemeral Drainage Number 2 has a depth of about 1 foot and appears to have overland flow connection to Ephemeral Drainage Number 1 when the water levels are high. This was observed through the appearance of soil erosion leading from Ephemeral Drainage Number 2 to Ephemeral Drainage Number 1.

Stormwater Detention Basin

A stormwater detention basin (1.48 acres) was constructed between August 2017 and April 2018 just north of the Prologis commercial building, west of Mountain House Parkway. The basin is not naturally occurring and held water at the time of the 2019 field surveys. This basin has a concrete and rock substrate. Currently, the vegetation surrounding this stormwater retention basin is landscaped and non-naturalized.

Roadside Drainage

Two roadside drainage features (Roadside Drainage Number 1 and Roadside Drainage Number 2) run parallel to the I-205 on the southern side of the interstate. These roadside drainage features exhibited shallow beds and banks and support facultative wetland vegetation, such as curly dock, in addition to a variety of nonnative upland forbs and grasses. The drainages were dry at the time of the delineation and had a soil and cobble substrate that drained west to east, and which ultimately ended outside of the biological study area along I-205.

The ephemeral drainages, stormwater detention basin, and roadside drainages may be considered waters of the United States and waters of the state. However, these features appear to lack of connectivity to a traditional water of the United States and, therefore, are unlikely to be considered waters of the United States. They would be considered waters of the state. Jurisdiction and acreage of the ephemeral drainages, stormwater detention basin, and roadside drainages are pending verification of the delineation by United States Army Corps of Engineers Sacramento District.

Environmental Consequences

Effects of the Build Alternative

Direct Effects

Construction of the westbound on-ramp would place fill in 0.02 acres of ephemeral drainage and an additional 0.03 acres would be temporarily impacted. The southernmost ephemeral drainage (Ephemeral Drainage Number 2) is within the permanent impact area of the proposed project, and the northern drainage (Ephemeral Drainage Number 1) is outside of both the permanent and temporary impact areas and would not be directly affected.

Construction of the proposed project would not result in permanent or temporary impacts on the stormwater detention basin habitat.

Construction of the proposed project would result in 0.07 acre of temporary and 0.05 acre of permanent impacts on roadside drainages. However, it is expected that roadside drainages would be replaced as part of the project design for stormwater drainage.

Indirect Effects

Construction activities could cause indirect impacts as a result of washing of sediment into wetlands that lie outside the project footprint. In addition, the addition of impermeable surfaces within the project footprint could indirectly alter the hydrology that supports wetlands outside of the footprint.

Standardized Measures

CONDUCT MANDATORY ENVIRONMENTAL AWARENESS TRAINING FOR CONSTRUCTION PERSONNEL

Before any ground-breaking disturbance occurs, including grading, a qualified biologist would conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training would be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid effects on sensitive biological resources (e.g., wetlands, special-status species, and nesting birds) next to the work area and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist would inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence on-site, the importance of maintaining habitat, and the terms and conditions of the authorizing documents. Proof of this instruction would be submitted to resource agencies, as required.

The environmental training would also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction. General restrictions and guidelines that must be followed by construction personnel are listed below.

- Project-related vehicles would observe the posted speed limit on hard-surfaced roads and a 15 mile-per-hour speed limit on unpaved roads or access areas in the work area during travel within the project limits.
- Project-related vehicles and construction equipment would restrict off-road travel to the work area.
- Vegetation clearing and construction operations would be limited to the minimum necessary in areas of temporary access work areas and staging.
- All food-related trash would be disposed of in closed containers and removed from the work area at least once a week during the construction

period. Construction personnel would not feed or otherwise attract wildlife to the designated work area.

- No pets or firearms would be allowed in the designated work area.
- To prevent possible resource damage from hazardous materials such as motor oil or gasoline, construction personnel would not service vehicles or construction equipment outside designated staging areas.
- The training would also include identifying the best management practices written into the Storm Water Pollution Prevention Plan and the rationale behind their implementation during project construction.

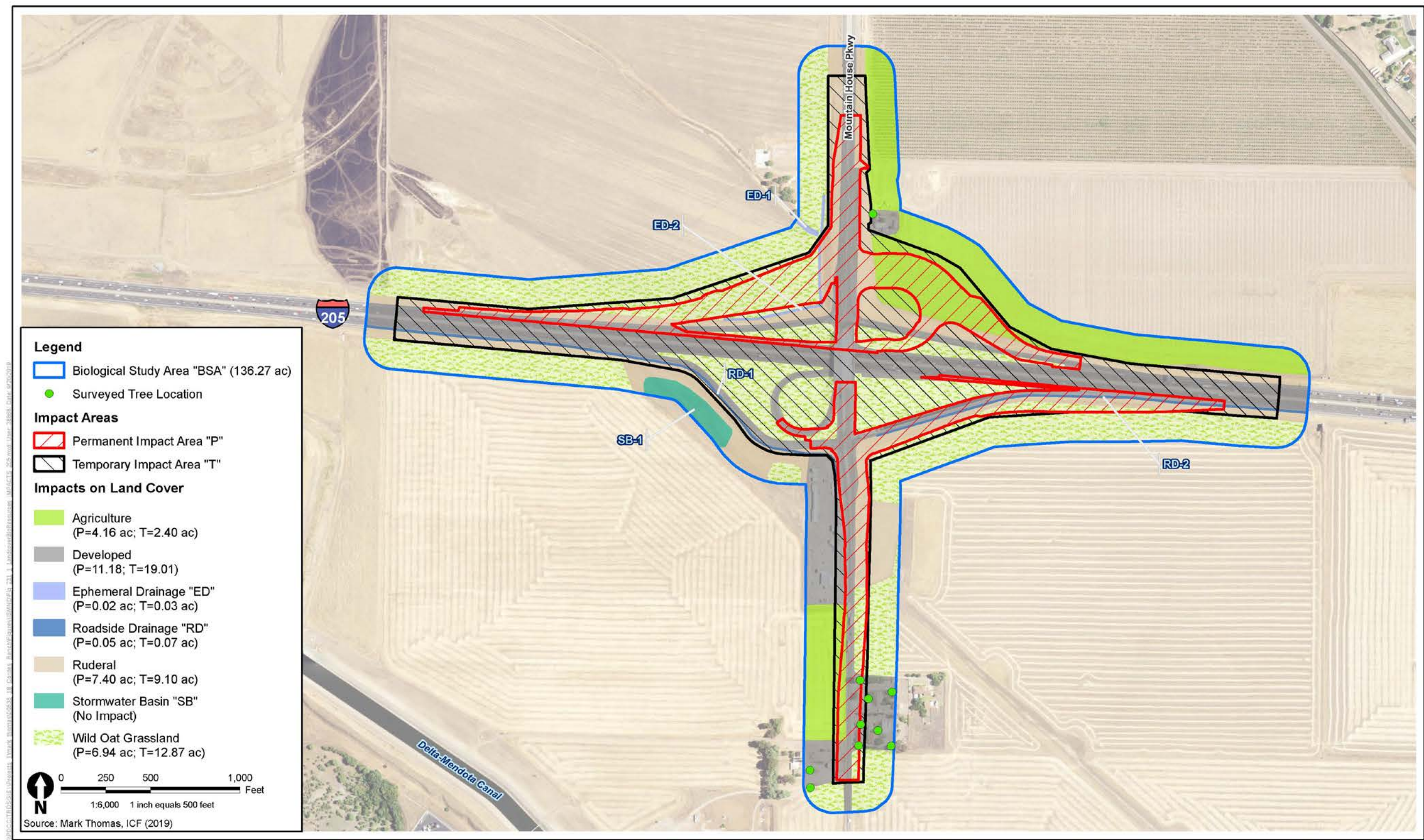
Effects of the No-Build Alternative

Under the No-Build Alternative, there would be no construction and no wetlands or other waters would be affected.

Table 2.3.1-1. Impacts on Wetlands and Other Waters

Habitat Type	Permanent (acres)	Temporary (acres)
Ephemeral Drainage	0.02	0.03
Stormwater Detention Basin	None	None
Roadside Drainage	0.05	0.07
Total Impacts	0.07	0.10

Figure 2.3.1-1. Impacts on Land Cover Types and Sensitive Biological Resources in the Biological Study Area



Avoidance, Minimization, and/or Mitigation Measures

Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Prior to construction, high-visibility orange construction fencing and/or flagging would be installed along the perimeter of the work area next to environmentally sensitive areas (e.g., wetlands, special-status species habitat, and active bird nests). Where specific buffer distances are required for sensitive biological resources (e.g., special-status species habitats and active bird nests), they would be specified under the corresponding measures identified below. The final construction plans show the locations where fencing would be installed. The plans would also define the fencing installation procedure. The fencing would be maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities would cease until the fencing is repaired or replaced. The project's special provisions package would provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within environmentally sensitive areas.

Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats

A qualified biologist would monitor all construction activities that involve ground disturbance (e.g., vegetation removal, grading) within or next to environmentally sensitive areas (e.g., wetlands, special-status species habitat, and active bird nests). The purpose of the monitoring is to ensure that measures identified in this Initial Study are properly implemented to avoid and minimize effects on sensitive biological resources and to ensure that the project complies with all applicable permit requirements and agency conditions of approval. The biologist would ensure that fencing around environmentally sensitive areas remains in place during construction and that no construction personnel, equipment, or runoff/sediment from the construction area enters environmentally sensitive areas.

Compensate for Loss of Wetlands

Final compensatory ratios would be determined during the permitting process. The project would compensate for permanent loss of seasonal wetland through one or more of the following mitigation options:

- Purchase compensatory credits for the affected habitat types at a United States Army Corps of Engineers-approved mitigation bank.
- Pay into the National Fish and Wildlife Foundation Sacramento District In-Lieu Fee Program.

2.3.2 Plant Species

Regulatory Setting

The United States Fish and Wildlife Service and California Department of Fish and Wildlife 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 and/or the California Endangered Species Act. Please see the Threatened and Endangered Species section 2.3.4 in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including California Department of Fish and Wildlife species of special concern, United States Fish and Wildlife Service candidate species, and California Native Plant Society rare and endangered plants.

The regulatory requirements for Federally Endangered Species Act can be found at 16 United States Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Sections 1900 through 1913, and CEQA, found at California Public Resources Code, Sections 21000-21177.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. California Endangered Species Act defers to California Native Plant Protection Act, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under California Native Plant Protection Act are not protected under California Endangered Species Act but rather under CEQA. All plant species with a California Rare Plant Rank of 1B and 2B are considered rare, threatened or endangered in California. Any impacts on these species should be analyzed during preparation of environmental documents relating to CEQA or equivalent to CEQA because these species meet the definition of Rare or Endangered under State CEQA Guidelines Section 15125 (c) and/or Section 15380. The biological study area has the potential to support 21 California Rare Plant Rank 1B or 2B plant species of both annual and perennial lifeforms.

Affected Environment

The following discussion is based upon the Natural Environment Study completed for the project in November 2019.

Botanists conducted a botanical survey of the biological study area in September 2017, and again on April 2, 2019 and August 30, 2019, during spring and summer blooming periods. During the survey, botanists walked all accessible parcels of the biological study area and compiled a list of plant species that were evident and identifiable.

A total of 56 special-status (non-threatened and endangered) plant species were identified as occurring in the biological study area vicinity (about 10 miles) based on the California Natural Diversity Database search results, the California Native Plant Society inventory (2019), and the United States Fish and Wildlife Service list of threatened or endangered species (2019) for the project region (see Table C-1 in Appendix C).

The biological study area contains potential habitat for 12 of these 56 species (see Table C-1 in Appendix C). The other 44 species either have habitat or microhabitat requirements that are not present in the biological study area, or the species occur at higher elevations than the biological study area.

Spring and summer botanical surveys were conducted and none of the 12 special-status species potentially present were observed. During the 2019 summer botanical surveys, it was found that a large portion of the wild oat grassland, which serves as potential habitat for the big tarplant, was disced or mowed. Because of the high level of disturbance, the big tarplant is assumed to be present in the biological study area until surveys of undiscarded and unmowed habitat are conducted during the blooming period (July through October). For purposes of this impact analysis, areas of wild oat grassland are presumed to be occupied by the big tarplant. No other special-status plant species were observed during the botanical surveys.

Environmental Consequences

Effects of the Build Alternative

Direct Effects

Construction of the project would result in permanent conversion of wild oat grassland. At the time of survey, approximately 17 acres of wild oat grassland within the project footprint had been disced and heavily disturbed and therefore it was not possible to determine that big tarplant was not present. For purposes of this impact analysis, that area of wild oat grassland is presumed to be occupied by big tarplants until surveys of undisturbed habitat are conducted to determine presence or absence of this species. If big tarplants do occur in the project area, construction of the proposed project would permanently remove plants within the footprint and temporarily disturb

plants elsewhere in the project area. The number of plants that could be permanently or temporarily affected is unknown.

Indirect Effects

No indirect effects to big tarplant are anticipated to occur as a result of the project.

Standardized Measures

Standardized measures described in Section 2.3.1 to conduct mandatory environmental awareness training for construction personnel, and avoidance and minimization measures to install fencing and/or flagging to protect biologically sensitive resources, and retain a qualified biological monitor for construction in sensitive areas would further reduce impacts on special-status plants. The standardized measure below would further reduce effects on special-status plants.

Conduct Floristic Surveys for Summer-Blooming Special-Status Plants and Implement Protective Measures as Feasible

Before project construction, a qualified botanist would be retained to survey the biological study area in an unmowed and undiscd condition and document the presence or absence of summer-blooming special-status plants. The botanist would conduct a floristic survey that follows the California Department of Fish and Wildlife's 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. All plant species observed would be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable, generally during the blooming period. To account for special-status plant identification periods, a field survey would be conducted prior to any project construction and between the months of July and October. The botanist would photograph and map locations of all special-status plants identified during the surveys, document the location and extent of the special-status plant population on a California Natural Diversity Database Survey Form, and submit the completed Survey Form to the California Natural Diversity Database.

Wherever feasible, avoidance and minimization measures would be implemented to reduce direct impacts on special-status plants found in or next to the construction area by creating a 100-foot buffer around the plants and by installing and maintaining exclusion fencing, as described in the project best management practices. The buffer size may be reduced by a qualified biologist if site-specific conditions indicate that the hydrology where the plants are located would not be affected by construction. The proposed project may be redesigned or modified wherever feasible in order to avoid indirect or direct effects on special-status plants identified within the project

construction area during the surveys. Any special-status plants in the proposed staging areas would be avoided. Where special-status plants cannot be avoided, the project would compensate for permanent impacts on special-status plants.

Effects of the No Build Alternative

Under the No Build Alternative, no construction would take place and there would be no temporary or permanent impacts on special-status plant species.

Avoidance and Minimization Efforts

Mitigate for Permanent Impacts on Special-Status Plants

If complete avoidance of special-status plants is not feasible, the project may mitigate for unavoidable permanent direct effects on special-status plants through protection of the existing seed base by the collection of topsoil which would be used to reseed disturbed areas. Special-status plants may be planted or transplanted.

2.3.3 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The United States Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the California Department of Fish and Wildlife 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 2.3.4 below. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern, and United States Fish and Wildlife Service or National Oceanic and Atmospheric Administration's National Marine Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- NEPA
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- CEQA
- Sections 1600 through 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

The following discussion is based upon the Natural Environment Study completed for the project in November 2019.

Based on the California Natural Diversity Database search results, 16 special-status (non-threatened and endangered) animal species were identified as occurring or having the potential to occur in the project region (see Table C-2 in Appendix C). After a review of species distribution and habitat requirements data and conducting the field survey, it was determined that nine of the 16 species would not occur in the biological study area because it lacks suitable habitat for the species or is outside the species' known range. Table C-1 in Appendix C provides an explanation for the absence each of these species from the biological study area. Seven special-status animal species have the potential to occur in the biological study area: western burrowing owl, golden eagle, loggerhead shrike, white-tailed kite, American badger, Townsends big-eared bat, and pallid bat. These species are discussed below.

Reconnaissance-level field surveys of the biological study area were conducted on March 8, 2019 and August 26, 2019, to document existing conditions and evaluate habitat suitability for special-status animal species. Biologists walked parallel transects through the biological study area where permission to enter was obtained and they recorded all wildlife habitat and biological resources observed. Transects were spaced about 15 to 30 feet apart. For areas where permission to enter was not obtained, biologists drove publicly accessible roads and used binoculars to scan the biological study area out to the field of view.

Western Burrowing Owl

The burrowing owl is a California species of special concern. The burrowing owl is a year-round resident in the Central Valley, San Francisco Bay Area, Carrizo Plain, and Imperial Valley. They occur primarily in grassland habitats but may also occur in landscapes that are highly altered by human activity, such as weedy, agricultural, and developed lands (e.g., on the edges of parking lots, along railroad track berms, under concrete rip/rap, edges of agricultural fields and canals etc.). Suitable habitat must contain burrows with relatively open, short vegetation and minimal amounts of shrubs or taller vegetation. They most commonly nest and roost in California ground squirrel burrows, but may also use burrows dug by other species, as well as use culverts, piles of concrete rubble, and pipes, and other tunnel-like structures. The breeding season is March to August but can begin as early as February. During the breeding season, owls forage near their burrows but have been recorded hunting up to 1.7 miles away.

Protocol-level surveys for burrowing owl were not conducted; however, parallel transects (spaced 20 to 30 feet apart) were walked through all accessible parcels in the biological study area and were searched for owls

and owl signs (i.e., burrows with white-wash, feathers and pellets) as well as suitable burrows and surrogate cover (e.g., culverts, debris piles). Burrowing owls, owl burrows and signs were not observed during the field survey. There are numerous California Natural Diversity Database records for burrowing owls within 10 miles of the biological study area with the closest record (from 1992) located about 0.1 mile east the biological study area.

Suitable nesting and foraging habitat (wild oat grassland, ruderal areas, and edges of agriculture) for burrowing owls are present in the biological study area. Ground squirrel complexes, which are used by burrowing owls for underground refuge, were observed in wild oat grassland and weedy areas in all accessible parcels of the biological study area.

Potentially suitable owl burrows and other nesting habitat may be present in parcels that were inaccessible during the survey. There is potential for burrowing owls to occupy wild oat grassland, weedy areas, and areas on the edges of agricultural lands that are not disturbed by freeway traffic. There is low to no potential for burrowing owls to occupy wild oat grasslands immediately next to the interstate.

Golden Eagle

While golden eagles are not listed as threatened or endangered under the federal Endangered Species Act or California Endangered Species Act, it is a California Fully Protected Species. Golden eagles use habitats ranging from arctic to desert, including tundra, shrublands, grasslands, coniferous forests, farmland and riparian corridors, and are found through the majority of California. The species nests on secluded cliffs and escarpments or in tall trees overlooking open country and forages in wild oat grasslands, chaparral, and oak woodlands with plentiful medium-sized and large-sized mammals.

Golden eagles are known to forage in wild oat grasslands in the project vicinity and were observed foraging in the project vicinity during the field survey on March 8, 2019. There are 14 California Natural Diversity Database occurrences of golden eagles within 10 miles of the biological study area with the closest occurrence from 1996, located about 6.3 miles south of the biological study area. The biological study area lacks suitable nesting habitat for golden eagles. Limited, but suitable foraging habitat (wild oat grassland and ruderal areas) is present in the biological study area. Suitable mammal prey items (i.e., jackrabbits, California ground squirrels, etc.) were observed in wild oat grassland and weedy areas in the biological study area.

Loggerhead Shrike

The loggerhead shrike is a California species of special concern. It is a year-round resident throughout much of California and uses a variety of open grasslands across their range. Loggerhead shrikes use scattered trees, shrubs, posts, fences, utility lines, or other structures for perches. Nests are built in trees or shrubs with dense foliage surrounded by open habitat. In the

Central Valley, loggerhead shrikes show a positive association with grasslands, irrigated pasture, and grain and hay crops.

Focused surveys for loggerhead shrikes were not performed; however, loggerhead shrikes were observed foraging within the biological study area during the field survey on March 8, 2019. There are nine California Natural Diversity Database occurrences of loggerhead shrikes within 10 miles of the biological study area with the closest occurrence, from 2005, located about 2.17 miles north of the biological study area. Suitable nest trees and shrubs for loggerhead shrikes were observed within, and immediately adjacent to, the biological study area, additional suitable trees and shrubs were observed immediately next to the biological study area. Additional suitable nesting for loggerhead shrike substrate may occur on inaccessible parcels. Suitable foraging habitat (weedy areas, agricultural land, and wild oat grassland) is present throughout the biological study area.

White-Tailed Kite

The white-tailed kite is a California fully protected species. White-tailed kites occur in coastal and valley lowlands in California. White-tailed kites generally inhabit low-elevation grassland, savannah, oak woodland, wetland, agricultural, and riparian habitats. Some large shrubs or trees are required for nesting and for communal roosting sites. Nest trees range from small, isolated shrubs and trees to trees in relatively large stands. White-tailed kites make nests of loosely piled sticks and twigs lined with grass and straw, near the top of dense oaks, willows, and other tree stands. The breeding season lasts from February through October and peaks from May to August. They forage in undisturbed, open grassland, meadows, farmland, and emergent wetlands where voles and mice are common prey species.

Focused surveys for white-tailed kites were not conducted. A pair of white-tailed kites were observed foraging in the biological study area on March 8, 2019. There are four California Natural Diversity Databases records for the species within 10 miles of the biological study area, with the closest record, from 1993, located about 3 miles northwest of the biological study area. Two suitable white-tailed kite nest trees are present in the biological study area; there are additional suitable nesting trees immediately next to, but outside of the biological study area. Trees suitable for white-tailed kites would be the same trees that are suitable for Swainson's hawks. Suitable foraging habitat (wild oat grassland, agricultural land, and weedy areas) occurs throughout the biological study area.

American Badger

The American badger is a California species of special concern. American badgers occur throughout the state except for the humid coastal forests of northwestern California in Del Norte and Humboldt Counties. American badgers occur in a wide variety of open, arid habitats including shrub, forest,

and herbaceous habitat, but most commonly are associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. They require sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground. Badgers dig burrows, which are used for cover and reproduction. They frequently reuse old burrows, although some may dig a new den each night, especially in summer. Dens are usually located in sandy soil in areas with sparse overstory cover. Badgers are carnivorous and eat fossorial rodents (especially ground squirrels and pocket gophers) and some reptiles, insects, eggs, birds, and carrion; their diet shifts seasonally and yearly in response to availability of prey. They are active yearlong, and day and night.

Parallel transects, spaced 20-30 feet apart, were walked through all accessible parcels and scanned for dens suitable for American badgers. No badgers or badger dens were observed during the March 8, 2019 field survey. Suitable, friable soil, wild oat grasslands and weedy areas are present in portions of the biological study area, however, past regular agricultural practices in the area have decreased the potential for this species to den in the biological study area. Grasslands in the biological study area are not be suitable for badgers as these grasslands are isolated (so they would have lower prey abundance) and the interstate could be an impassible barrier to movement for badgers. Inaccessible areas were not surveyed and may contain suitable habitat for American badgers and/or badger dens. Due to the proximity to heavily travelled interstate and regular human disturbance from agricultural activities, the biological study area may only be used as a movement corridor rather than primary denning habitat for American badgers.

Townsend's Big-Eared Bat and Pallid Bat

TOWNSEND'S BIG-EARED BAT

The Townsend's big-eared bat is a California state species of special concern and is considered a high priority species in California by the Western Bat Working Group. Townsend's big-eared bats occur throughout California, but distribution appears to be limited by the availability of cavern-like roost structures.

Townsend's big-eared bats are found in a wide variety of habitats from desert to riparian and coastal woodland, but they are found in greatest numbers in areas with cavern-forming rock or abandoned mines. Townsend's big-eared bats roost in dome-like spaces in caves or mines, where they roost hanging in the open from the ceiling. They also have been known to use cavern-like spaces in abandoned buildings or bridges, and in the basal hollows in large coast redwood trees. Mating occurs in fall and spring, and pups are born in late spring to early summer. Maternity roost size varies and may contain only a few or up to several hundred individuals. The species is believed to be relatively sedentary, hibernating in caves and mines near summer maternity roosts, although seasonal movements are not well understood. Townsend's

big-eared bats may have hibernated historically in aggregations of thousands of individuals. They are highly sensitive to disturbance at roost sites.

PALLID BAT

The pallid bat is a California species of special concern and is considered a high priority species in California by the Western Bat Working Group. In California, the species occurs throughout the state except for the high Sierra Nevada mountains from Shasta to Kern Counties, and the northwestern corner from Del Norte and western Siskiyou Counties to Mendocino County. They tend to inhabit foothills and lowlands near water throughout California below 6,000 feet. Pallid bats use a wide variety of habitats (e.g., desert, grassland, scrubland, woodland, forest) but are most common in open, dry areas with rock outcrops or cliffs for roosting. The species prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. They are a yearlong resident in most of their range and hibernate in winter near their summer roost. Day roosting sites include caves, crevices, mines, and occasionally in hollow trees and buildings; roosts must protect from high temperatures. Night roosts may be in more open sites such as porches and open buildings. Pallid bats are also very sensitive to roost site disturbance. Pallid bats are opportunistic generalists that eat a variety of arthropod prey; they rarely eat small reptiles, rodents, and plant material.

Although there is low potential for special-status bat species to roost in the biological study area, the potential for a species of special-status bat to roost in the biological study area cannot be entirely ruled out without further assessment by a qualified bat biologist. Focused surveys for roosting special-status bats were not conducted and a few site visits are inadequate to fully assess potential bat roost presence because bats may change roost sites on a seasonal or even daily basis and there is variability among species.

Townsend's big-eared bats and pallid bats can roost in tree hollows, crevices and overhangs on buildings, and in weep holes and under bridges. However, those features in the biological study area are not generally suitable for roosting habitat. There is some potential that pallid bats could roost in abandoned structures or that either Townsend's big-eared bats or pallid bats could use the overpass to roost. However, no evidence of bat use was observed on the underside of the overpass. Therefore, although evidence of an active roost was not observed during the March 8, 2019 field visit, the two bat species have low potential to roost and forage in the biological study area because habitat is present.

Special-Status and Other Migratory Birds

Migratory birds and raptors may nest on the ground or in shrubs or trees in the biological study area. Common species such as barn swallows and black phoebes are known to use bridge structures for nesting, especially structures over open water that generally support a large insect prey base. The

nonnative grassland and weedy habitat in the biological study area has potential to support various species of special-status birds including: grasshopper sparrows (*Ammodramus savannarum*), northern harriers (*Circus hudsonius*), and the song sparrow “Modesto population” (*Melospiza melodia*).

The occupied nests and eggs of migratory birds are protected by federal and state laws, including the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5. The United States Fish and Wildlife Service is responsible for overseeing compliance with the Migratory Bird Treaty Act, and the California Department of Fish and Wildlife is responsible for overseeing compliance with the California Fish and Game Code and making recommendations on nesting bird and raptor protection.

Suitable nesting and foraging habitat for migratory birds and raptors is present in the biological study area, including on the underside of the existing bridge structure. None of the four special-status migratory bird species listed in the section above were identified during the field visits. No active nests were observed during the field survey; however, focused nesting bird surveys were not conducted. Mud cup nests were not observed on the underside of the bridge or on the side of human-made structures (i.e., the ARP Mini-Mart gas station), which is 1.7 miles south of the project.

Colonies of Roosting Non-Special-Status Bats

The California Department of Fish and Wildlife would also require that substantial roost colonies of non-special-status bats (such as Mexican free-tailed bats [*Tadarida brasiliensis*]) be protected from disturbance, especially during the breeding and hibernation seasons.

Focused surveys for colonies of roosting non-special-status bats were not conducted and a few site visits are inadequate to fully assess potential bat roost presence because of the high variability in bat resource use across time (i.e., bats may change roost sites on a seasonal or even daily basis) and among species.

Trees, the overpass, and multiple buildings (occupied and unoccupied) in the biological study area may provide potential day roosting habitat for non-special-status bats, although evidence of use was not observed. The accessible trees in the biological study area could provide suitable roosting habitat for foliage roosting bats, non-special-status bats such as hoary bats (*Lasiurus cinereus*) and trees with crevices could provide suitable roosting habitat for silver-haired bats (*Lasionycteris noctivagans*). Crevices on the side of the gas station building, and weep holes and seams on the underside of the bridge overpass may also provide suitable roosting habitat for non-special-status bats, such as big brown bats (*Eptesicus fuscus*), California myotis (*Myotis californicus*), and long-legged myotis (*Myotis volans*).

Environmental Consequences

Effects of the Build Alternatives

Western Burrowing Owl

DIRECT EFFECTS

Construction of the proposed project would result in direct permanent and temporary impacts on suitable nesting and foraging habitat for burrowing owls. Construction activities during the nesting season (February 1 to August 31) could result in noise and vibration disturbance leading to abandonment of suitable burrows or disturbance of normal breeding behaviors, if a nest is present in or near the construction area. Construction grading, excavation, and the movement of equipment and vehicles could injure and/or kill burrowing owl adults, nestlings, and eggs if they are present in project work areas. These activities could result in the incidental loss of eggs or nestlings or otherwise lead to nest abandonment. Construction activities taking place during the non-breeding season (September 1 to January 31) could disturb wintering burrowing owls, which could cause the birds to abandon burrows and overwintering habitat. Table 2.3.3-1 summarizes estimated permanent and temporary impacts on western burrowing owl habitat in the biological study area.

Table 2.3.3-1. Impacts on Potential Western Burrowing Owl Nesting and Foraging Habitat

Habitat Type	Permanent (acres)	Temporary (acres)
Weedy	7.40	9.10
Wild Oat grassland	5.81	2.66
Agriculture-cropland	0.52	0.61
Total Impacts	13.73	12.37

INDIRECT EFFECTS

Compaction of soils in the area could prevent or discourage occupancy by California ground squirrels and other small mammals thereby decreasing the availability of potentially suitable burrows that could be used by burrowing owls. Displacement of small mammals (ground squirrels and gophers) would reduce availability of underground refuge. Temporary disturbance of annual grassland habitat and weedy lands would also reduce the prey base for these species.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts on burrowing owls. Caltrans standard below

would ensure that there would be no adverse effect on western burrowing owls.

Conduct Preconstruction Surveys for Burrowing Owl, Establish No-Disturbance Buffers around Occupied Burrows, and Use Passive Relocation if Burrows Cannot Be Avoided

A qualified biologist will conduct a preconstruction survey for burrowing owl 14 days prior to and within 24 hours of the start of ground-disturbing activities within suitable habitat.

- If an active burrow is identified near a proposed work area and work cannot be conducted outside of the nesting season (February 1 to August 31), a qualified biologist will establish a no-disturbance buffer that extends a minimum of 250 feet around the burrow. If burrowing owls are present at the site during the non-breeding season (September 1 through January 31), a qualified biologist will establish a no-activity zone that extends a minimum of 150 feet around the burrow. Buffers may be modified based on the opinion of the biological monitor and in coordination with California Department of Fish and Wildlife taking into consideration site specific conditions (e.g., line of sight to activities, specific activities taking place).
- If burrowing owls are present within the direct disturbance area and cannot be avoided during the non-breeding season (September 1 through January 31), passive relocation techniques (e.g., installing one-way doors at burrow entrances) will be used. Passive relocation also may be used during the breeding season (February 1 through August 31) if a qualified biologist, coordinating with California Department of Fish and Wildlife, determines through site surveillance that the burrow is not occupied by burrowing owl adults, young, or eggs. Passive relocation will be accomplished by installing one-way doors (e.g., modified dryer vents or other California Department of Fish and Wildlife-approved method). The one-way doors will be left in place for a minimum of 1 week and will be monitored daily to ensure that the owls have left the burrow. The burrow will be excavated using hand tools, and a section of flexible plastic pipe (at least 3 inches in diameter) will be inserted into the burrow tunnel during excavation to maintain an escape route for any animals that may be inside the burrow.

Golden Eagle

DIRECT EFFECTS

The proposed project would have direct permanent and temporary impacts on golden eagle foraging habitat (wild oat grassland and ruderal areas). The proposed project would not impact golden eagle nesting habitat. Table 2.3.3-2 summarizes estimated permanent and temporary impacts on suitable golden eagle foraging habitat.

Table 2.3.3-2. Impacts on Golden Eagle Foraging Habitat

Habitat Type	Permanent (acres)	Temporary (acres)
Weedy	7.40	9.10
Wild Oat grassland	5.81	2.66
Total Impacts	13.21	11.76

INDIRECT EFFECTS

Increased human presence and noise from construction activities, and soil compaction may temporarily discourage small and medium sized mammals (the typical prey items of golden eagles) from using the biological study area, thus temporarily discourage golden eagles from foraging in the biological study area.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to conduct mandatory environmental awareness training for construction personnel and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts on golden eagles.

Loggerhead Shrike

DIRECT EFFECTS

If the proposed project is conducted during the nesting season (February 1 to August 31), construction activities could have direct effects on loggerhead shrikes potentially nesting in trees or shrubs in the biological study area. Removal or pruning of the trees and shrubs could result in destruction of active nests, including eggs, nestlings, or juveniles. Construction-related disturbances (e.g., equipment noise, presence of workers) could disrupt normal nesting behavior, resulting in nest abandonment and nest failure. Construction of the proposed project would result in direct permanent loss of and temporary impacts on suitable nesting and foraging habitat for loggerhead shrikes.

Table 2.3.3-3 summarizes estimated permanent and temporary impacts on suitable loggerhead shrike nesting and foraging habitat.

Table 2.3.3-3. Impacts on Loggerhead Shrike Nesting and Foraging Habitat

Habitat Type	Permanent	Temporary
<i>Nesting:</i> Number of trees potentially removed	3	0
<i>Foraging:</i> Weedy (acres)	7.40	9.10
<i>Foraging:</i> Wild oat grassland (acres)	5.81	2.66
<i>Foraging:</i> Agriculture-cropland (acres)	4.16	2.40
Total Impacts (acres)	17.37	14.16

INDIRECT EFFECTS

An increase in loggerhead shrikes being struck by vehicles is a potential indirect impact of the project. Shrikes flying across the on-ramps and off-ramps to access suitable foraging habitat would be exposed to increased vehicular traffic.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts on loggerhead shrikes. Impacts on loggerhead shrikes would be further avoided by conducting preconstruction surveys and limiting vegetation removal to the nonbreeding season for nesting migratory birds, as described below.

Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds

To the extent practicable, vegetation removal (including short annual grasses and ruderal vegetation) will occur during the non-breeding season for most migratory birds (generally between September 2 and February 14). If vegetation cannot be removed between September 2 and February 14, these areas will be surveyed as described below.

- If construction activities are expected to begin during the nesting season for birds (generally February 15 through September 1), a qualified biologist will conduct nesting surveys 7 days prior to the start of construction. Surveys will include a search of all vegetation (i.e., wild oat grassland, shrubs, trees), including ruderal areas, that provide suitable nesting habitat in the biological study area. If no active nests are detected during these surveys, no additional measures are required.
- If an active nest is found in the biological study area, a no-disturbance buffer will be established around the site to avoid disturbance or destruction of the nest site until a qualified biologist determines that the young have fledged and moved out of the project. The extent of these buffers will be determined by the qualified biologist and will depend on the level of noise or construction disturbance (including noise and vibration from pile driving), 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.

White-Tailed Kite

DIRECT EFFECTS

If construction activities occur during the white-tailed kite nesting season (February to October), the activities could result in the disturbance of white-tailed kites. One suitable nesting tree is located in the permanent impact footprint. Removal of the suitable nesting tree would result in the permanent loss of nesting habitat and could result in destruction of active nests, including eggs, nestlings, or juveniles. Construction activities that disturb nesting white-tailed kites may result in the abandonment or failure of active nests, which would result in direct effects on white-tailed kites. Project-related activities that could result in take of white-tailed kites are not permitted under the California Fish and Game Code Section 3511 because the white-tailed kite is a fully protected species.

Construction of the proposed project would also result in direct permanent loss of and temporary disturbance of suitable foraging habitat for white-tailed kites (consisting of weedy areas and wild oat grassland).

Table 2.3.3-4 summarizes estimated permanent and temporary impacts on suitable white-tailed kite nesting and foraging habitat.

Table 2.3.3-4. Impacts on White-Tailed Kite Nesting and Foraging Habitat

Habitat Type	Permanent	Temporary
<i>Nesting:</i> Number of trees removed	1	0
<i>Foraging:</i> Weedy (acres)	5.72	5.45
<i>Foraging:</i> Wild Oat grassland (acres)	5.81	2.66
<i>Foraging:</i> Agriculture-cropland(acres)	4.16	2.40
Total Impacts (acres)	15.69	10.51

INDIRECT EFFECTS

The proposed project would fragment undeveloped land covers in the biological study area and could result in decreased foraging opportunities for white-tailed kites because small mammals, reptiles, and amphibians would not be able to colonize fragmented lands as wider and busier roads would create movement barriers. Soil compaction and temporal displacement of small rodents (e.g., voles, field mice, gophers), amphibians (tree frogs) and reptiles (e.g., fence lizards, alligator lizards, gopher snakes), would decrease overall availability of prey abundance for white-tailed kites. White-tailed kite reproductive success has been negatively correlated with development; successful white-tailed kite nests in the Sacramento Valley were all over 328 feet from a road and surrounded by natural vegetation and non-urban human development.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts on white-tailed kites. Impacts on white-tailed kites would be further avoided by the standardized measure to conduct preconstruction surveys and remove vegetation only during the nonbreeding season for nesting migratory birds described under *Loggerhead Shrike* above.

American Badger

DIRECT EFFECTS

Construction of the proposed project would result in direct permanent and temporary impacts on suitable foraging or resting habitat for American badgers. Construction activities could result in noise and vibration disturbances leading to badgers temporarily avoiding the area. Staging and operation of construction equipment and vehicles within suitable grassland habitat could also injure or entrap the species or accidentally strike or kill a badger, if present. If present in underground refuge, excavation or other ground-disturbing construction activity could crush a burrow and entomb a badger. If badgers were denning in the biological study area and construction activities took place when litters are born (generally March and April), it could disturb denning badgers and could cause den abandonment. The proposed project would result in temporary impacts on movement corridor during the construction phase and result in permanent loss of some foraging habitat for American badger.

Table 2.3.3-5 summarizes estimated permanent and temporary impacts on suitable American badger habitat.

Table 2.3.3-5. Impacts on American Badger Foraging and Movement Corridor Habitat

Habitat Type	Permanent (acres)	Temporary (acres)
Weedy	5.72	5.45
Wild Oat grassland	5.81	2.66
Agriculture-cropland	4.16	2.40
Total Impacts	15.69	10.51

INDIRECT EFFECTS

The buildout of the project could increase the current level of barriers to movement for American badgers. Soil compaction in the area could prevent or discourage occupancy by small mammals thereby decreasing the availability of prey abundance for badgers.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts on American badgers. Standardized measures to conduct preconstruction surveys for American badger and establish no-disturbance buffers around any occupied burrows described below would ensure that there would be no adverse effect on American badger.

Preconstruction Survey for and Avoidance of American Badger and Badger Dens

- A qualified biologist would conduct a preconstruction survey, within the limits of proposed temporary and permanent impact in grassland and ruderal habitat, no more than 14 days before the beginning of ground disturbance or any activity likely to affect American badger. The biologist would conduct den searches by systematically walking transects spaced 30 to 100 feet apart through the biological study area. Transect distance will be determined on the basis of the height of vegetation such that 100 percent visual coverage of the ground disturbing area is achieved. If dens are found during the survey, the biologist would map the location of each den as well as record the size and shape of the den entrance; the presence of tracks, scat, and prey remains; and if the den was recently excavated.
- If potential American badger dens are present, their disturbance and destruction would be avoided.
- If potential American badger dens are located within the proposed work area and cannot be avoided during construction, a qualified biologist would determine if the dens are occupied or were recently occupied using remote cameras, media tracking, or methodology coordinated with California Department of Fish and Wildlife. If unoccupied, the qualified biologist would request permission from California Department of Fish and Wildlife to temporarily plug the burrow entrance with sand bags to prevent badgers from re-using them during construction, and or if necessary, to collapse these dens by hand. If occupied, the biologist would consult with California Department of Fish and Wildlife regarding best practices for encouraging the badger(s) to move to alternate dens outside the work areas, including excavation or construction of artificial dens.
- Pipes would be capped and trenches would contain exit ramps to avoid direct mortality while construction areas are active.

Townsend's Big-Eared Bat and Pallid Bat

DIRECT EFFECTS

The proposed project would likely result in the disturbance of suitable roosting habitat and construction activities have the potential to occur during the bat maternity season (April 1 through September 15). Disturbance of potential roosting habitat from noise (e.g., pile driving) or lights could displace bats, causing them to relocate to another roost site, and potentially compete with other bats for roost site or expose them to predators if alternative roosts are not available. Roosting bats, if present, would be temporarily disturbed by construction activities that disturb suitable roost habitat. Based on aerial imagery, the permanent construction footprint intersects with one potentially suitable roost tree in the biological study area; if occupied by roosting bats, removal of suitable roost habitat would result in permanent impacts.

Table 2.3.3-6 summarizes estimated permanent and temporary impacts on suitable Townsend's big-eared bat and pallid bat habitat.

Table 2.3.3-6. Impacts on Townsend's Big-Eared Bat and Pallid Bat Roosting and Foraging Habitat

Habitat Type	Permanent	Temporary
Roosting: Number of trees removed	1	0
Roosting: Overpass (acres)	0.34	0.52
Foraging: Ruderal (acres)	7.40	9.10
Foraging: Wild Oat grassland (acres)	5.81	2.66
Foraging: Agriculture-cropland (acres)	4.16	2.40
Total Impacts	17.71	14.68

INDIRECT EFFECTS

Potential indirect impact of the proposed project could be the degradation of foraging habitat for special-status bats from the wider road, because bat activity near large roads has been found to be lower than activity at distance of 984 feet from large roads. Soil compaction and removal of ground vegetation cover would reduce habitat for insects (prey items for bats); a decrease in prey availability may force bats to allocate more energetic resources to foraging.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install of fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts on Townsend's big-eared bats and pallid bats. Impacts on bats would be further avoided by conducting preconstruction

surveys for suitable roosting habitat and implementing measures as necessary, as described below.

Identify Suitable Roosting Habitat for Bats and Implement Avoidance and Protective Measures

Trees

- To avoid and minimize impacts on maternity roosts and hibernating bat species, trees should be removed or pruned between September 1 and October 30.
- A qualified biologist (i.e., a biologist with experience with tree roosting habitats and life histories of local bats) would examine trees for suitable bat roosting habitat (e.g., large tree cavities, loose or peeling bark, basal hollows, large snags) 7 to 14 days before tree removal or pruning. Trees would also be evaluated to determine if they provide suitable habitat for foliage roosting bats.
- If the biologist determines that trees to be removed or pruned provide suitable bat roosting habitat, the biologist would monitor tree removal and pruning. The biologist would make recommendations to implement measures to avoid and minimize disturbance or mortality of bats, such as conducting pruning and removal in the late afternoon or evening when it is closer to the time that bats would normally arouse, removing the tree in pieces rather than felling an entire tree, and gently shaking each tree with construction equipment and waiting several minutes before felling trees or removing limbs to allow bats time to arouse and leave the tree. The biologist would search downed vegetation for dead and injured bats. The presence of dead or injured bats that are species of special concern would be reported to California Department of Fish and Wildlife. The biologist will prepare a biological monitoring report, which will be provided to the project lead and California Department of Fish and Wildlife.

Structures

- Preconstruction roost surveys for bats would be conducted by a qualified biologist 14 days prior to structure modification. The type of preconstruction survey (i.e. emergence survey, acoustic survey etc.) would be determined by the qualified biologist in discussion with Caltrans. If bat roosts are observed, structure disturbance would be postponed until bats have relocated or exited the structure.
- If roost habitat needs to be physically altered, then bat exclusion would be considered. If possible, roost entrances would be fitted with one-way doors or other exclusionary devices that allow bats to exit but not enter, to encourage bats to relocate.

- If a maternity roost is determined, the structure with the maternity roost would be avoided and bat relocation efforts would be postponed until young have fledged.
- If roost avoidance is not feasible, depending on the species of bat present, size of the bat roost, and timing of construction activities, additional protective measures may be necessary. Appropriate measures would be determined in coordination with the California Department of Fish and Wildlife.

Special-Status and Other Migratory Birds

DIRECT EFFECTS

Direct impacts on migratory nesting birds would be the same as identified for white-tailed kites, loggerhead shrikes, and golden eagles. The project has the potential to affect nesting migratory birds either through direct injury or mortality during ground-disturbing activities (clearing of weedy and annual grassland vegetation, excavation) or by disrupting normal behaviors, including nesting. Tree removal or pruning may be required for construction of the proposed project. If construction activities are conducted during the nesting season of migratory birds (generally February 1 through August 31), project activities could result in injury to or mortality of nesting birds. Removal or destruction of nests or construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

INDIRECT EFFECTS

Temporary disturbance of annual grassland and weedy areas would decrease the availability of ground nesting habitat for some species of nesting birds. Soil compaction and removal of vegetation cover could reduce invertebrate prey abundance and negatively affect food resources for birds nesting in the biological study area.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts to special-status and other migratory birds. Impacts on special-status and other migratory birds would be further avoided by conducting focused surveys for nesting birds prior to construction and implementation of protective measures during construction, as described in *Loggerhead Shrike* above.

Colonies of Roosting Non-Special-Status Bats

Direct and indirect impacts on colonies of roosting non-special-status bats would be the same as those described for Townsend's big-eared bats and pallid bats.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts to colonies of roosting non-special-status bats. Impacts on colonies of roosting non-special-status bats would be further avoided by conducting preconstruction surveys for suitable roosting habitat and implementing avoidance measures if necessary, as described in *Townsend's Big-Eared Bat and Pallid Bat* above.

Effects of the No Build Alternative

Under the No Build Alternative, no construction would take place and there would be no temporary or permanent impacts on special-status animal species.

Avoidance, Minimization, and/or Mitigation Measures

No additional avoidance and minimization measures are necessary beyond those listed above.

Additional avoidance and minimization measures may be agreed upon during the future permitting phase. Because effects on special-status animal species have been minimized by standardized measures, and avoidance and minimization measures, no compensatory mitigation is required.

2.3.4 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 United States Code Section 1531, et seq. See also 50 Code of Federal Regulations 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 (and Caltrans, as assigned), are required to consult with the United States Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of the Federal Endangered Species Act 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, California Fish and Game Code Section 2050, et seq. The California Endangered Species Act 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 is the agency responsible for implementing the California Endangered Species Act. 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." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by the California Department of Fish and Wildlife. For species listed under both the Federal Endangered Species Act and California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act 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.

Affected Environment

The following discussion is based upon the Natural Environment Study completed for the project in November 2019.

Consultation with the United States Fish and Wildlife Service is not required for this project because there are no federally listed species that have the potential to occur in the project area. Species lists were obtained from United States Fish and Wildlife Service (December 3, 2018), National Oceanic and Atmospheric Administration Fisheries Service (May 3, 2019). The biological study area is located within United States Fish and Wildlife Service-designated critical habitat for delta smelt but not within anadromous fish critical habitat. This project is located outside of National Oceanic and Atmospheric Administration Fisheries Service jurisdiction and no effects on jurisdictional species are anticipated.

Based on species lists, 18 state- or federally-listed wildlife species and three listed plant species were identified as occurring or having the potential to occur in the project region (see Table C-2 in Appendix C). After a review of species distribution and habitat requirements data and conducting the field survey, it was determined that all of the plant species and 16 of the 18 wildlife species would not occur in the biological study area because it lacks suitable habitat for the species or is outside the species' known range. Table C-2 in Appendix C provides an explanation for the absence each of these species from the biological study area. The two threatened animal species, Swainson's hawk and tricolored blackbird, that may occur in the biological study area or be affected by the proposed project are listed below and discussed below.

A reconnaissance-level field survey of the biological study area was conducted on March 8, 2019 and August 26, 2019 to document existing conditions and evaluate habitat suitability for special-status animal species. Biologists walked parallel transects through the project corridor where permission to enter was obtained and recorded all wildlife habitat and biological resources observed. Transects were spaced about 15 to 30 feet apart. For areas where permission to enter was not obtained, biologists drove publicly accessible roads and used binoculars to scan the biological study area out to the field of view.

An additional 0.5 mile buffer was included from the project limits to establish a biological study area for Swainson's hawks to look for suitable Swainson's hawk nesting trees and to assess potential direct and indirect effects of the proposed project on Swainson's hawk habitat. All trees that were accessible via public roads or, where permission was obtained to enter the property, were examined for their potential to provide suitable nesting habitat.

Swainson's Hawk

The Swainson's hawk is listed as threatened under the California Endangered Species Act. Swainson's hawks forage in grasslands, grazed pastures, fallow fields, alfalfa and other hay crops, beet and tomato crops, dry land and irrigated pasture, non-flooded rice land and certain grain and row croplands. Vineyards, orchards, flooded-rice, and cotton crops are generally unsuitable for foraging because of the density of the vegetation. Most Swainson's hawks winter in South America. Swainson's hawks arrive in California in early March to establish nesting territories and breed. They usually nest in large, mature trees. Most nest sites (87 percent) in the Central Valley are found in riparian habitats, primarily because trees are more available there. Swainson's hawks also nest in mature roadside trees and in isolated trees in agricultural fields or pastures. The breeding season is from March through August.

Protocol-level surveys for Swainson's hawks were not conducted; however, all trees within accessible parcels in the biological study area established for Swainson's hawks were assessed for their suitability to provide nesting

habitat for Swainson's hawks. No Swainson's hawk or other raptor nests were observed during the field survey. There are numerous California Natural Diversity Database records for Swainson's hawks within 10 miles of the biological study area. The most recent record in the last five years is from 2017 and is about 11 miles west of the biological study area. The closest record to the biological study area (from 2003) is located about 1.13 mile northeast of the biological study area. A record from 2016 is located 3.24 miles southeast of the biological study area.

Two trees in the southern extent of the biological study area were determined to provide suitable nesting habitat for Swainson's hawks. Additional suitable nesting trees were observed within the biological study area and outside of, but within 0.5 mile, of the biological study area. About five tree clusters in the biological study area may provide suitable nesting habitat for the species. Inaccessible parcels could contain trees that provide suitable nesting opportunities for Swainson's hawks.

Suitable foraging habitat (wild oat grassland, weedy areas, and low growing crops in agricultural lands) is present in undeveloped habitat in the biological study area. Wild oat grassland located immediately next to I-205 would not provide suitable foraging habitat as these areas are likely not occupied by enough prey items. Due to the presence of suitable nest trees, foraging habitat, and proximity to previously reported nesting activity by Swainson's hawks, there is moderate potential for the species to nest and forage in the biological study area.

Tricolored Blackbird

The tricolored blackbird is listed as threatened under the California Endangered Species Act. The tricolored blackbird is a highly colonial species that is largely endemic to California. Tricolored blackbird breeding colony sites require open, accessible water; a protected nesting substrate, including either flooded, thorny, or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony. Tricolored blackbird breeding colonies occur in freshwater marshes dominated by tules and cattails, in Himalayan blackberry, and in silage and grain fields. The breeding season is from late February to early August. Tricolored blackbird foraging habitats in all seasons include wild oat grasslands, dry seasonal pools, agricultural fields (such as large tracts of alfalfa with continuous mowing schedules, and recently tilled fields), cattle feedlots, and dairies. Tricolored blackbirds also forage occasionally in riparian scrub habitats and along marsh borders. Weed-free row crops and intensively managed vineyards and orchards do not serve as regular foraging sites. Most tricolored blackbirds forage within 3 miles of their colony sites but commute distances of up to 8 miles have been reported.

Focused surveys for tricolored blackbirds were not conducted and no tricolored blackbirds were observed in the accessible parcels during the field

survey. There are 21 California Natural Diversity Database records within 10 miles of the biological study area with the closest record, from 1998, about 1.31 miles south of the biological study area. The occurrence was within a half-acre of milk thistle and the habitat was not observed in 2011. Suitable nesting habitat, which includes freshwater wetland, upland bramble habitat, or milk thistle patch, was not observed in accessible parcels during the March 8, 2019 field survey. Inaccessible parcels were not surveyed and may contain suitable habitat for blackbirds. Tricolored blackbird foraging habitat is present in wild oat grassland and weedy areas in the biological study area, particularly west of Mountain House Parkway. Low growing crops in agricultural lands may also provide foraging opportunities for tricolored blackbirds. Grasslands and weedy areas immediately next to I-205 and between the on-ramps and off-ramps of the interstate would provide marginally suitable foraging habitat for tricolored blackbirds.

Environmental Consequences

Effects of the Build Alternative

Swainson's Hawk

DIRECT EFFECTS

The proposed project would result in the removal of one potentially suitable nest tree (a mature eucalyptus tree) in the southern extent of the biological study area.

If construction is conducted during nesting season (from May to August), this disturbance could result in the loss of fertile eggs or nestling or lead to nest abandonment. There is an existing level of noise in the biological study area from vehicle traffic and farm equipment, but the construction noise would represent a substantial increase over existing conditions.

Construction of the proposed project would result in permanent loss of and temporary disturbance of suitable Swainson's hawk foraging habitat. The impacts on annual grassland and weedy areas would reduce the amount of available foraging habitat in the biological study area and would result in permanent loss of some foraging habitat in the region.

Permanent and temporary impacts on potential Swainson's hawk foraging and nesting habitat is summarized in Table 2.3.4-1.

Table 2.3.4-1. Impacts on Swainson's Hawk Nesting and Foraging Habitat

Habitat Type	Permanent	Temporary
Roosting: Number of trees removed	1	
Roosting: Overpass (acres)	0.34	0.52
Foraging: Weedy (acres)	7.40	9.10
Foraging: Wild Oat grassland (acres)	5.81	2.66
Foraging: Agriculture-cropland (acres)	4.16	2.40
Total Impacts	17.71	14.68

INDIRECT EFFECTS

The increased presence of vehicles and human activity may potentially degrade the surrounding non-developed habitat through the introduction of trash and debris, resulting in increased predator presence. Compacted ground and increased noise from construction activity could temporarily decrease the presence of small mammal and would affect prey availability for Swainson's hawks.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts to Swainson's hawks. Impacts on Swainson's hawk would be further avoided by conducting focused surveys for nesting birds prior to construction and implementation of protective measures during construction, as described below.

Conduct Focused Surveys for Nesting Swainson's Hawk Prior to Construction and Implement Protective Measures during Construction

Focused preconstruction surveys for nesting Swainson's hawk would be conducted in the project area and in suitable habitat within a 0.5 mile radius, where accessible, around the project area. The survey methodology would follow the Swainson's Hawk Technical Advisory Committee's recommendations. A 500-foot buffer would be established around any discovered Swainson's Hawk nests. If construction cannot be conducted within the September 30th to February 1st, a biological monitor would be present during construction work within 500 feet of the identified nest.

Tricolored Blackbird

DIRECT EFFECTS

If construction activities occur during the tricolored blackbird nesting season (late February to early August), project activities could result in the disturbance of tricolored blackbirds. Construction disturbance (noise and/or

activity) during the nesting season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, if nesting occurs in or next to the biological study area. Construction of the proposed project would result in direct permanent loss of and temporary impacts on suitable foraging habitat (wild oat grassland, agriculture, and weedy areas) for tricolored blackbirds.

Table 2.3.4-2 summarizes estimated permanent and temporary impacts on suitable tricolored foraging habitat.

Table 2.3.4-2. Impacts on Tricolored Blackbird Foraging Habitat

Habitat Type	Permanent (acres)	Temporary (acres)
Weedy	5.72	5.45
Wild Oat grassland	5.81	2.66
Agriculture-cropland	0.52	0.61
Total Impacts	12.06	8.72

INDIRECT EFFECTS

Compaction of soils in the area could decrease abundance of insect resources (e.g., grasshoppers, beetles, butterflies etc.) thereby decreasing the availability of food resources that are required to sustain blackbird colonies.

STANDARDIZED MEASURES

Standardized and avoidance measures described in Section 2.3.1 to install fencing and/or flagging to protect biologically sensitive resources, conduct mandatory environmental awareness training for construction personnel, and retain a qualified biological monitor for construction in sensitive areas would avoid and minimize impacts on tricolored blackbirds. Impacts on tricolored blackbirds would be further avoided by limiting vegetation removal to the nonbreeding season for migratory birds as described in *Loggerhead Shrike* above.

Effects of the No Build Alternative

Under the No Build Alternative, no construction would take place and there would be no temporary or permanent impacts on threatened or endangered species.

Avoidance, Minimization, and/or Mitigation Measures

No additional avoidance and minimization measures are necessary beyond those listed above.

Additional avoidance and minimization measures may be agreed upon during the future permitting phase. Because effects on special-status animal species

have been minimized by standardized measures, and avoidance and minimization measures, no compensatory mitigation is required.

2.3.5 Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order 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 guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

Affected Environment

The following discussion is based upon the Natural Environment Study completed for the project in November 2019.

Botanists conducted a botanical survey in the biological study area on April 2 and August 30, 2019. During the survey, botanists walked or visually surveyed all of the biological study area and compiled a list of plant species that were evident.

Invasive plant species consist of species designated as federal noxious weeds by the United States Department of Agriculture, state noxious weeds species designated by the California Department of Food and Agriculture, and invasive plants identified by California Invasive Plant Council. Invasive plants displace native species, change ecosystem processes, alter plant community structure, and lower wildlife habitat quality. Road, highway, and related construction projects are some of the principal dispersal pathways for invasive plants and their propagules. The Federal Highway Administration requires that state departments of transportation use the state’s noxious weed list to identify invasive plant species that could be spread by construction of transportation projects. Accordingly, Table 2.3.5-1 lists the invasive plant species identified by the California Department of Food and Agriculture, and California Invasive Plant Council that are known to occur in the biological study area.

The California Invasive Plant Council classifies invasive plant species into five categories: High, Moderate, Limited, Alert, and Watch. Species classified as high have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure and they are easily spread. Species

classified as moderate have substantial, but not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure and they are less easily spread. Species classified as limited are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. An “alert” is listed on species with high or moderate impacts that have limited distribution in California, but may have the potential to spread much further. Watch species have been assessed as posing a high risk of becoming invasive in the future in California.

Three plant species with a California Invasive Plant Council rating of high were found in the biological study area. Seven plant species in the biological study area are identified on the California list of noxious weed species. No plant species designated as a federal noxious weed was identified in the biological study area. Invasive plant species occur in all of the land cover types in the biological study area.

Table 2.3.5-1. Invasive Plant Species Observed in the Biological Study Area

Species	California Department of Food and Agriculture	California Invasive Plant Council
<i>Ailanthus altissima</i> (Tree of heaven)	Noxious weed list	Moderate
<i>Avena barbata</i> (wild oat)	Not listed	Moderate
<i>Brassica nigra</i> (black mustard)	Not listed	Moderate
<i>Bromus diandrus</i> (ripgut brome)	Not listed	Moderate
<i>Bromus hordeaceus</i>	Not listed	Limited
<i>Bromus madritensis</i>	Not listed	High
<i>Carduus tenuiflorus</i> and <i>C. pycnocephalus</i> (Italian thistle)	Noxious weed list	Limited
<i>Centaurea solstitialis</i> (yellow starthistle)	noxious weed list	High
<i>Cirsium vulgare</i> (bull thistle)	Not listed	Moderate
<i>Conium maculatum</i> (poison-hemlock)	Not listed	Moderate
<i>Convolvulus arvensis</i> (bindweed)	Noxious weed list	Not Applicable
<i>Erodium cicutarium</i> (redstem filaree)	Not listed	Limited
<i>Festuca myuros</i> (rat-tail fescue)	Not listed	Moderate
<i>Festuca perennis</i> (= <i>Lolium multiflorum</i>) (Italian ryegrass)	Not listed	Moderate
<i>Hirschfeldia incana</i> (shortpod mustard)	Not listed	Moderate
<i>Hordeum murinum</i> (Mediterranean barley)	Not listed	Moderate
<i>Lantana camara</i> (Lantana)	Not listed	Watch
<i>Lepidium latifolium</i> (Perennial pepperweed)	Noxious weed list	High
<i>Medicago polymorpha</i> (California burclover)	Not listed	Limited
<i>Raphanus sativus</i> (Wild radish)	Not listed	Limited
<i>Rumex crispus</i> (curly dock)	Not listed	Limited
<i>Salsola tragus</i> (Russian thistle)	Noxious weed list	Limited
<i>Schinus molle</i> (Peruvian peppertree)	Not listed	Limited
<i>Silybum marianum</i> (blessed milkthistle)	Not listed	Limited
<i>Sisymbrium irio</i> (London rocket)	Not listed	Limited
<i>Tribulus terrestris</i> (puncture vine)	Noxious weed list	Limited
<i>Trifolium hirtum</i> (rose clover)	Not listed	Limited
<i>Washingtonia robusta</i> (Mexican fan palm)	Not listed	Moderate

Environmental Consequences

Effects of the Build Alternative

The proposed project would create temporary soil disturbances leading to an increased susceptibility for colonization or the spread of invasive plant species.

STANDARDIZED MEASURES

Standardized measures to avoid and minimize the avoid and minimize the spread of invasive plant species during project construction, describe below, would be implemented to avoid and minimize impacts related to invasive species.

Avoid and Minimize the Spread of Invasive Plant Species during Project Construction

The project would be responsible for avoiding and minimizing the introduction of new invasive plants and the spread of invasive plants previously documented in the biological study area. The following BMPs would be written into the construction specifications and implemented during project construction.

- Retain all excavated soil material onsite or dispose of excess soil in a permitted offsite location to prevent the spread of invasive plants to uninfested areas adjacent to the project footprint.
- Use a weed-free source for project materials (e.g., straw wattles for erosion control that are weed-free or contain less than 1% weed seed).
- Prevent invasive plant contamination of project materials during transport and when stockpiling (e.g., by covering soil stockpiles with a heavy-duty, contractor-grade tarpaulin).
- Use sterile grass seed and native plant stock during revegetation.
- Restore temporarily disturbed areas to pre-project conditions or better. Revegetate or mulch disturbed soils within 30 days of completing ground-disturbing activities to reduce the likelihood of invasive plant establishment.

Effects of the No Build Alternative

Under the No Build Alternative, no construction would take place and there would be no associated potential to result in the colonization or spread of invasive plant species.

Avoidance, Minimization, and/or Mitigation Measures

No compensatory mitigation pertaining to invasive plants is required.

2.4 Cumulative Impacts

2.4.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over time.

Cumulative impacts on resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under NEPA can be found in 40 Code of Federal Regulations Section 1508.7.

2.4.2 Approach to Cumulative Impacts

The CEQA Guidelines provide that cumulative impacts may be analyzed by the list or projections approach. The list approach requires a list of reasonably foreseeable projects that contribute to the same cumulative impacts as the project. The projection approach relies on adopted plans to represent the reasonably foreseeable projects. The cumulative analysis for the project takes into consideration other ongoing projects in the same geographic area as the proposed project, as well as planned land use and transportation and circulation projects identified in the City and San Joaquin County general plans and policy documents. Developments and plans in the project region include the following:

- *Cordes Ranch Specific Plan*: A commercial/light industrial development including nearly 28 million square feet of business park industrial land use, as well as general office and commercial space, and 88.6 acres of parks and open space located north of I-580 and south of I-205

- I-205/Mountain House Parkway Interchange improvement: The proposed improvement of the interchange to accommodate projected traffic from build out of the Cordes *Ranch Specific Plan*.
- Mountain House Master Plan: A 7.5-square-mile mixed-use development including 12 neighborhoods and commercial and public services to serve the community of Mountain House, located north of I-205 and west of Mountain House Parkway.
- I-205/Lammers Road/West Eleventh Street Interchange Improvement Project: An interchange improvement project to convert the current Lammers Road half-interchange to a full interchange at Lammers Road and West Eleventh Street. The project is approved and permitted. Construction is expected in 2022.
- I-205 Managed Lanes Project: A project to widen I-205 between I-5 and I-580 which will consider use of high-occupancy vehicle lanes and express lanes.

2.4.3 Assessment of Cumulative Impacts

A cumulative impact analysis is required whenever an environmental document is prepared. The purpose of a cumulative impacts analysis is to examine the potential for incremental environmental impacts of the proposed project, in combination with impacts of past, present, and reasonably foreseeable future projects, to result in one or more significant cumulative impacts on resources. As specified in Caltrans/Federal Highway Administration 2016 *Guidance for Preparers of Cumulative Impact Analysis*, the cumulative impact analysis should focus only on resources that are adversely affected by the cumulative action. These may include resources currently in poor or declining health or at risk.

The proposed project would not result in impacts related to the resource areas that are discussed at the beginning of Chapter 2, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. Analysis in Chapter 2 and Chapter 3 also determined that other resource areas would not be affected by the project. Therefore, the project could not contribute to cumulative impacts on the following resources, and they are not discussed further in this cumulative impact analysis.

- Consistency with Plans
- Land Use and Planning
- Coastal Zone
- Wild and Scenic Rivers
- Parks and Recreational Facilities
- Timberland

- Growth
- Community Character and Cohesion
- Environmental Justice
- Cultural Resources
- Tribal Cultural Resources
- Natural Communities
- Minerals
- Population and Housing
- Public Services
- Wildfire

Resource Areas with No Cumulative Impacts

There would be no significant cumulative impacts related to the following resource areas.

Human Environment

Relocations and Real Property Acquisition

The study area for evaluating cumulative effects related to property acquisition and relocation consists of the city of Tracy and the adjacent unincorporated areas of San Joaquin County. Tracy and San Joaquin County have general plans that address growth and displacement of businesses and residences. Displacements of businesses and residences resulting from other projects are anticipated to be minimal, and some projects would result in the construction of new residential and commercial areas. Potentially adverse impacts associated with residential and commercial displacements for transportation projects, including the proposed project, would be handled in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act, as amended. Because development projects in the area are largely on undeveloped land, relocations are few. Therefore, there does not appear to be a cumulative impact related to relocation and real property acquisition.

As currently designed, the proposed project would result in permanent acquisition of some acreage of thirteen parcels. One structure, that is slated for demolition would be affected and no displacements would occur. Construction of the project would result in the removal of some formal and informal landscaping, fencing, and mailboxes and alter entry drives at the two residential properties on the east side of Mountain House Parkway, near the southern project end. With implementation of Caltrans' standard procedure for displacement and relocations to comply with the Federal Uniform Relocation and Real Property Act (see Appendix C), and implementation of mitigation

measures, the proposed project would not contribute to a cumulative impact, if one did exist.

Utilities and Emergency Services

The study area for evaluating cumulative impacts on utilities and emergency services is the city of Tracy and immediately adjacent communities. Utilities and emergency services currently operate at acceptable service levels, and, therefore, the health of the resource is good. The proposed project would not result in impacts on utilities or emergency services related to operation by creating additional demand. Therefore, operational cumulative impacts are not addressed.

Construction of the proposed project would require the relocation of some utilities, as discussed in Section 2.1.4, Utilities and Emergency Services. Coordination with utility providers would result in little or no effect on utilities. Construction may result in temporary impacts on emergency services that could result in longer response times. Short-term impacts on emergency service response times resulting from the construction of the proposed project and other projects would be avoided through coordination with providers and by providing notice about detours. Other projects in the area would be required to coordinate with utility and emergency service providers as well. However, it is not anticipated that construction of two projects would occur at the same place and the same time; therefore, no cumulative impact resulting from construction-related impacts on utilities or emergency services is anticipated. The long-term impacts of the proposed project on emergency service response times are anticipated to be positive because the proposed project would improve circulation.

Physical Environment

Water Quality and Stormwater

The proposed project would result in potential impacts on water quality during construction only. The study area for evaluating cumulative impacts on water quality and stormwater is the city of Tracy, adjacent communities, and the adjacent unincorporated areas of San Joaquin County. The proposed project, like other projects, would be required to comply with requirements of permits that would be necessary for construction. Best management practices to address water quality would be implemented for the proposed project and other projects. Therefore, there would be no cumulative impact related to water quality and stormwater.

Geology, Soils, Seismicity, and Topography

The study area for evaluating cumulative impacts related to geology, soils, seismicity, and topography is the city of Tracy, adjacent communities, and the adjacent unincorporated areas of San Joaquin County. As described in Section 2.2.3, Geology, Soils, Seismicity, and Topography, the project vicinity generally is not seismically active or susceptible to landslides, nor does it

contain unstable geologic units. The project vicinity does contain soils with moderate liquefaction susceptibilities, and final geotechnical studies would be necessary to minimize this risk. Therefore, the health of the resources is good.

Impacts of the proposed project on this resource area would be related to construction and avoided through compliance with regulations and implementation of standard design and best management practices. Other projects in the area would encounter similar conditions and restrictions. The proposed project would be required to meet regulations and standards associated with Universal Building Code Seismic Hazard Zone 4 hazards, as would all projects in the San Joaquin Valley. Therefore, a cumulative impact related to geology, soils, seismicity, or topography is not expected.

Hazardous Waste and Materials

The study area for evaluating cumulative impacts related to hazardous materials is the project area and a 0.5-mile radius around the area. There are no hazardous materials sites in the vicinity. Potential contamination in the area is related to agricultural and transportation uses that are widespread in California. Therefore, the health of the resource is moderate.

Construction of the proposed project and other projects in the vicinity would result in potential exposure of workers or the public to hazardous materials related to ground-disturbing activities and the removal or modification of facilities or structures. Soils in the vicinity of roadways may be contaminated with aerially deposited lead, and agricultural soils may be contaminated with pesticides and other materials. Structures may contain lead-based paint, asbestos, or other hazardous materials. Construction may disturb contaminated soils or require the removal of structures containing hazardous materials, releasing them into the environment. These impacts are all related to construction, and all projects must comply with state and federal regulations to prevent the release of hazardous materials and ensure worker and public safety. Not all projects will be constructed at the same time or in the same place. Therefore, no cumulative impact related to hazardous waste or materials is expected.

Noise and Vibration

Noise levels in the project area are moderate, with traffic noise as the dominant ambient noise. The study area for evaluating cumulative impacts on noise consists of the project area and sensitive land uses within a 500-foot radius.

As discussed in Section 2.2.7, Noise, there are no sensitive land uses within the project area and sound levels would not increase significantly; therefore, operation of the project would not result in impacts related to noise or vibration.

Temporary increases in noise could occur during construction activities. However, implementation of Caltrans Standard Specifications and compliance with applicable local noise standards to minimize the temporary noise effects of construction would ensure that noise impacts caused by construction would be short term and not adverse. Other projects are required to adopt similar noise-reduction measures, either as directed by Caltrans or as a result of local noise ordinances. Construction of more than one project is not expected to take place at the same time or in the same location. A cumulative impact related to construction noise is not expected.

Resources with Cumulative Impacts

Human Environment

Farmland

The study area for evaluating cumulative effects on farmland is the northern San Joaquin Valley. As development in the area continues, agricultural lands continue to be converted to non-agricultural uses. According to data from the California Department of Conservation, from 2014 to 2016, about 3,000 acres of the nearly 750,000 acres of agricultural lands in San Joaquin County were removed from agricultural use (0.4 percent), although there was a net gain of 81 acres in important farmland. There continues to be a loss of agricultural land, though efforts are being made to preserve this resource.

In the immediate project vicinity, commercial and residential developments in Tracy and the nearby community of Mountain House result in fewer acres in agricultural production. There are parcels of farmland (Prime Farmland and Farmland of Local Importance) that are designated Urban Reserve and Industrial in the City's General Plan. Therefore, a cumulative impact on farmland does exist. However, the project would result in the conversion of about 19 acres of farmland. This amounts to less than 0.003 percent of the existing agricultural land in San Joaquin County. Because the portions of parcels that would be converted are immediately next to transportation facilities, no remaining parcels would cease to be in agriculture because of the project. Therefore, the contribution of the project to the cumulative impact on agricultural land would not be considerable.

Traffic and Transportation

The study area used for evaluating cumulative traffic and transportation effects, including pedestrian and bicycle facilities, extends along I-205 and Mountain House and International Parkways encompassing the east and westbound ramps. Under existing conditions, all mainline segments and ramps operate at acceptable level of service, although traffic forecasts indicate that conditions will worsen. The health of the resource is moderate.

Traffic analysis is inherently cumulative because models used for analysis include input from all known and reasonably foreseeable projects. As indicated in Table 2.1.5-6 in Section 2.1.5, Traffic and

Transportation/Pedestrian and Bicycle Facilities, all freeway segments would operate at unacceptable levels of service in the westbound direction during the morning peak hours and in the eastbound direction during the evening peak hours under 2043 conditions, with or without the project. Without the project, two of the three intersections analyzed would operate at unacceptable levels of service in both morning and evening peak hours in 2043 (see Tables 2.1.5-4 and 2.1.5-5 in Section 2.1.5). Therefore, a cumulative impact clearly exists. However, with the project, operations would improve to an acceptable level of service at one of the intersections in the evening peak hour, and all mainline segments would experience less delay, although they still would operate at level of service F. The contribution of the project would not be considerable but would be beneficial.

Visual/Aesthetics

The land surrounding the project corridor includes rural and light industrial development, with views of rolling grassland, the Diablo Range and Black Hills. The study area for evaluating cumulative visual effects is the project area and a 0.5-mile radius around the project area. The current visual health of the project vicinity is moderate, because views are characterized by the open lands and the Diablo Range, along with highways in the background. Views are moderately intact.

Lighting in the project vicinity is associated with the existing development, overhead lighting and traffic lights along Mountain House/International Parkway at the on-ramps and off-ramps. The Delta-Mendota Canal, wind turbines, and large lattice steel transmission line towers are common visible elements in the project vicinity.

The only proposed development within 0.5 mile of the project area is associated with the *Cordes Ranch Specific Plan*, a commercial development that is partially built out. Continued build out would introduce more of the same light industrial land use, consistent with the current land use. Cordes Ranch development also would introduce additional glare and ambient lighting associated with street and building lighting. Therefore, there could be a cumulative impact.

The proposed project would result in minor changes to an existing interchange and residences along International Parkway, which would likely not be noticeable to most viewers. The project would also include minimal additional lighting. The amount of new pavement would be minimal, and it is expected that any increase in daytime glare would not be perceptible. Minimization measures, including adherence to design standards and standard specifications related to construction lighting, would be implemented to further reduce impacts. Mitigation to restore site features of residence and use minimum lighting standards would further reduce impacts. Therefore, the contribution of the proposed project to cumulative impacts on visual resources would be less than considerable.

Physical Environment

Hydrology and Floodplain

The study area for evaluating cumulative impacts on hydrology and floodplain is the San Joaquin River watershed. The proposed project would result in an increase in impervious surfaces, as would other development and transportation projects in the area. Therefore, a cumulative impact related to hydrology and floodplain exists. However, the area of added impervious surface would be small in comparison with the watershed area of the San Joaquin River, and it would not affect 100-year flow or existing drainage patterns. Therefore, the project's contribution would be less than considerable.

Air Quality

The study area for evaluating air quality effects is the San Joaquin Valley Air Basin. Air quality effects are inherently cumulative because the assessment of air quality depends largely on traffic forecasts, which include build-out assumptions that are consistent with adopted demographic forecasts. Consequently, an evaluation of air quality operational effects assumes future regional growth consistent with projections. As discussed in Section 2.2.6, Air Quality, the study area has experienced violations of federal and state air quality standards; therefore, the health of the resource is poor.

Air quality analysis is inherently cumulative in nature, because the evaluation relates to the air basin as a whole and evaluates conditions during the Opening Year and Design Year (2023 and 2043, respectively). Because the proposed project and cumulative projects would result in impacts on air quality, there is a cumulative impact on air quality. As noted in Section 2.2.6, operation of the proposed project would result in beneficial impacts related to criteria pollutant emission (see Table 2.2.6-2 in Section 2.2.6). Therefore, the proposed project would not contribute to a cumulative impact on air quality associated with operations.

Construction of the proposed project and cumulative projects would result in construction-related criteria pollutant emissions. The temporary impacts of the proposed project would be minimized with the implementation of Caltrans Standard Specification Section 14 and compliance with state and federal regulations. Other projects would also be required to comply with regulations to reduce temporary air quality impacts. Therefore, with implementation of avoidance and minimization measures, the contribution of the proposed project would not be considerable.

Wetlands and Other Waters

As discussed in Section 2.3.1, Wetlands and Other Waters, no waters of the United States appear to be located within the project area; therefore, there is no potential for the proposed project to contribute to a cumulative impact on

waters of the United States. However, there are two seasonal wetlands and a roadside drainage that would be considered waters of the state.

The study area for evaluating cumulative impacts on wetlands and other waters is the San Joaquin Valley. Development throughout the state has affected waters of the United States. and waters of the state, both directly through fill and indirectly through impacts on water quality. The Clean Water Act requires project proponents to mitigate impacts on waters of the United States. from fill and to avoid and minimize the discharge of pollutants through preparation and implementation of stormwater pollution prevention plans.

The Porter-Cologne Act protects waters of the state using waste discharge requirements. Adherence to the federal and state requirements largely offset impact on wetlands and other waters. As more area is converted from open space and farmland to other uses (including transportation), the overall health of this resource declines and a cumulative impact on wetlands and other waters likely exists.

Construction of the project would result in direct fill in 0.02 acre of ephemeral drainage and 0.05 are of roadside drainages. There would be no net loss of functions or habitat values, and the implementation of avoidance and minimization measures would minimize sedimentation and protect water quality. The project will require the purchase of compensatory credits to mitigate effects on wetlands. Although the proposed project would contribute to a cumulative effect on wetlands and other waters, the contribution would not be considerable because the acreage affected by the project would be so small and compensatory mitigation would be purchased.

Plant Species

As discussed in Section 2.3.2, Plant Species, there is a potential for the project to affect one special-status species, the big tarplant. However, this impact can be identified only as a potential impact because portions of the project area have burned, and it was not possible to determine if the species is present.

The study area for evaluating cumulative impacts on the big tarplant is the range of the species, which includes valley and foothill grasslands in the San Francisco Bay area, and Alameda, Contra Costa, San Joaquin, Stanislaus, and Solano Counties. Development in these areas has reduced the acreage of habitat for this species, although all projects with federal and state funding would be required to consider potential impacts on the species, which would offset direct effects on individuals. As more area is converted from open space and farmland to other uses (including transportation), more populations of big tarplants are at risk for removal, and a cumulative impact on big tarplant habitat likely exists.

Construction of the proposed project could contribute to the cumulative loss of big tarplant habitat and could potentially result in direct impacts on this special-status plant species. Loss of special-status plants and their habitats from urban development, conversion to agricultural uses, competition with nonnative plant species, sedimentation and pollution from runoff, and herbicides are threats to special-status plant species. Although the proposed project would contribute to a cumulative loss of habitat and could contribute to a cumulative impact on the species through direct impacts on individuals, implementation of avoidance and minimization measures to conduct surveys and implement protective measures as necessary and to compensate for permanent impacts should they result would ensure that the contribution would not be considerable.

Animal Species

As discussed in Section 2.3.3, Animal Species, the proposed project would affect potential habitat for non-listed special-status wildlife species (golden eagles, loggerhead shrikes, white-tailed kites, western burrowing owls, American badgers, Townsend's big-eared bats, and pallid bats).

Loggerhead shrikes and western burrowing owls are listed as species of special concern in California. White-tailed kites and golden eagles are fully protected by the California Fish and Game Code. Other migratory bird species are protected under the Migratory Bird Treaty Act. Foraging habitat for all these species and nesting habitat for western burrowing owls and loggerhead shrikes occurs within the project area. Some suitable nesting habitat for white-tailed kites is located nearby. The study area for cumulative effects on these species is the San Joaquin Valley and surrounding foothills. As development occurs in these areas, foraging habitat is reduced. This type of habitat is being converted to transportation and urban uses throughout the Central Valley; therefore, the health of the resource (foraging habitat) is moderate, because these animals have a large range for foraging. A cumulative impact likely exists, and the proposed project would contribute to the cumulative impact on these species and their habitat. With implementation of avoidance and minimization measures identified in Section 2.3.3, the contribution of the project would not be considerable.

The American badger is a California species of special concern. The study area for cumulative impacts on the American badger is its habitat range, which encompasses much of California. Development in California continues to convert open spaces that would provide wildlife habitat to transportation and other uses. Grassland habitat in particular is being converted to urban and transportation uses throughout the Central Valley; therefore, the health of the resource is poor to moderate. A cumulative impact exists. Because a net loss of foraging habitat would result from the construction of the proposed project, the project would contribute to the cumulative loss of suitable habitat for American badgers in the project region. By implementing measures to avoid and minimize potential impacts on American badgers, by restoring

temporarily affected annual grassland and weedy areas to pre-project or better conditions and considering the overall availability of foraging habitat near the project area, the proposed project's contribution to a cumulative impact on American badgers would not be considerable.

Townsend's big-eared bats and pallid bats are California state species of special concern and considered high-priority species in California by the Western Bat Working Group. Structures that provide suitable roosting habitat for bats could be modified through the proposed project. Although construction of the proposed project could contribute to the temporal loss of suitable roosting habitat, no permanent loss of habitat would result. With implementation of avoidance and minimization measures, the proposed project's contribution to a cumulative impact on special-status bats would not be considerable.

Threatened and Endangered Species

As discussed in Section 2.3.4, Threatened and Endangered Species, the biological study area includes potential habitat for Swainson's hawks and tricolored blackbirds.

SWAINSON'S HAWK

The Swainson's hawk is listed as threatened under the California Endangered Species Act. The study area for assessing cumulative impacts on Swainson's hawks is foraging habitat within the Central Valley and Coast Ranges. Because development in California continues to result in the conversion of open grasslands and agricultural lands to urban and other uses, the health of the resource is declining and a cumulative impact on foraging habitat for Swainson's hawks exists. Implementation of the project would result in the conversion of foraging habitat in a way that would contribute to the cumulative impact. With implementation of measures to avoid and minimize potential impacts on Swainson's hawks and restoration of temporarily affected weedy areas and annual grassland to pre-project or better conditions, the proposed project's contribution to the cumulative effect on Swainson's hawks would not be considerable.

TRICOLORED BLACKBIRD

Tricolored blackbird is listed as threatened under California Endangered Species Act. It nests near open water but forages in grasslands and agricultural fields. Suitable foraging habitat exists within the project area. The study area for assessing cumulative impacts on tricolored blackbird is foraging habitat within the Central Valley and Coast Ranges. Because development in California continues to result in the conversion of open grasslands and agricultural lands to urban and other uses, the health of the resource is declining and a cumulative impact on foraging habitat for tricolored blackbird exists. Because a net loss of foraging habitat would result from the construction of the proposed project, the project would contribute to

the cumulative loss of suitable foraging habitat for tricolored blackbirds in the project region. By implementing measures to avoid and minimize potential impacts on tricolored blackbirds and restoring temporarily affected annual grassland and weedy areas to pre-project or better conditions and considering the overall availability of foraging habitat near the project area, the proposed project's contribution to a cumulative effect on tricolored blackbirds would not be considerable.

Invasive Species

The study area for evaluating cumulative impacts related to invasive species is the city of Tracy, adjacent communities, and the adjacent unincorporated areas of San Joaquin County. Invasive plant species are known to occur in annual grasslands, along roadways, and in disturbed areas. Disturbed areas temporarily created during construction are susceptible to colonization by or spread of invasive plants. Considering past, current, and probable future projects, such as the development of the surrounding area, a cumulative impact likely exists. Ground disturbance and construction vehicle traffic associated with the proposed project could contribute to this cumulative impact. However, implementation of measures to revegetate or mulch disturbed soils within 30 days of ground-disturbing activities and to avoid and minimize the spread of invasive plant species during construction would ensure that the proposed project's contribution is not considerable.

Chapter 3 CEQA Evaluation

3.1 Determining Significance under CEQA

The proposed project is a joint project by Caltrans) and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the CEQA and NEPA. The Federal Highway Administration'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 and the Memorandum of Understanding dated December 23, 2016 and executed by the Federal Highway Administration and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the main differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, will be required. NEPA requires that an Environmental Impact Statement be prepared when the proposed federal action (the 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 Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental document.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. The CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. 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. Potential impact determinations are Significant and Unavoidable Impact, Less Than Significant With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there would be no impacts on a particular resource. A No Impact answer reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this checklist 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 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 discussions accompanying this checklist are summaries of information contained in Chapter 2 to provide you with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

CEQA Significance Determinations for Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

a) Have a substantial adverse effect on a scenic vista?

No Impact—Scenic vista views of the Diablo Range and Black Hills from the Mountain House Parkway bridge over I-205 would not be altered in any way. There would be no impact.

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

No Impact—I-580 is an officially designated state scenic route that is located about 1.5 miles southwest of the project area. I-580 is not visible from the project study area because of distance and because intervening development would prevent views from that distance. There would be no impact.

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—The proposed project is in a non-urbanized area, so the project would not conflict with applicable zoning and other regulations governing scenic quality in an urbanized area. Construction would require the partial acquisition of lands for construction to accommodate the widened roadway and right-of-way, bringing roadway facilities and traffic closer to roadway neighbors. The project would require removal of formal and informal landscaping, fencing, and mailboxes and would alter entry drives at the two residential properties on the east side of International Parkway, near the southern project end. However, a minimization measure to *Replace or Relocate Site Features and Landscaping Affected by the Project*, would lessen impacts on affected properties to the best degree possible.

The visual character of the proposed project would be compatible with the existing visual character of the corridor. The bridge structure would not be affected, restriping would not alter the visual landscape, and widening the ramps would result in minor landform alterations along the ramp and road shoulders, only affecting grassy and already disturbed areas along the shoulders. To cross the bridge, northbound and southbound bicycle traffic would be conveyed across the bridge through a buffered Class 2 bike lane. The grade-separated Class 1 bike trail that passes from the bridge structure and underneath the westbound off-ramp and westbound loop on-ramp to connect to Mountain House/International Parkway would result in minor landform alterations along the ramp and road shoulders, only affecting grassy and already disturbed areas along the shoulders. Improvements to the highway must comply with the Caltrans Highway Design Manual, which uses Context Sensitive Solutions consistent with Director's Policy DP-22. This approach includes implementing Design Standards 304.1, *Side Slope Standards*; 304.4, *Contour Grading and Slope Rounding*; 701.3, *Private Fences*; and 902.1, *Design Considerations, Aesthetics*.

These design standards require that slopes be graded to 4:1 or flatter; slopes be gentle, smooth, and well transitioned with slope rounding and topsoil replacement; have flowing contours that tie gracefully into the existing adjacent roadside and landforms; that Caltrans will construct or pay the cost to replace fences on private property as a right-of-way consideration to mitigate damages; and that steep, obvious cuts and fills be avoided to improve project aesthetics associated with roadside slopes. These design standards require that replanting reflect adjacent communities and natural surroundings to soften visual impacts associated with graded slopes. The proposed project would comply with these standards. Compliance with these Highway Design Manual design standards would help to minimize visual impacts associated with retaining walls, roadside grading and slopes, and revegetating exposed slopes and would reduce impacts on the views

associated with the interchange. The visual character and quality of the existing corridor would not be notably altered by the proposed project. Therefore, changes to visual character and quality associated with the project would be in keeping with the existing visual environment associated with the existing transportation facilities, as seen by all viewer groups at all locations, and impacts would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant—Minimal nighttime construction is proposed, which would require the use of extremely bright lights. However, Section 7-1.04 of Caltrans Standard Specifications requires that temporary illumination is installed in a manner that the illumination and the illumination equipment do not interfere with public safety. This section would also ensure that no lighting is aimed toward homes or businesses or aimed in a manner that would affect roadways users traveling at night. Lighting and signalization of the additional bridge lanes at the ramps would slightly increase nighttime lighting. However, this additional lighting would be minor and would result in a negligible increase in nighttime lighting. The amount of new pavement that would be introduced would be minor and would result in a negligible increase in daytime glare that would not be perceptible. Impacts would be less than significant. No mitigation is required.

3.2.2 Agriculture and Forest Resources

CEQA Significance Determinations for Agriculture and Forest Resources

In determining whether impacts on 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 on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the

Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less than Significant—The proposed project would convert 9.5 acres of Prime Farmland to non-agricultural purposes. There would be no impact. The acquisition of narrow strips of land next to I-205 would not take the parcels out of agricultural production. The impact would be less than significant.

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

Less Than Significant Impact—The proposed project would convert about 19 acres of Farmland of Local Importance to non-agricultural use. Because the converted acreage consists of small slivers of agricultural land next to existing roadways, no parcels would be taken out of agricultural use because of the project. No Williamson Act contract land would be impacted. This impact would be less than significant.

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 as defined by Government Code section 51104(g)?

No Impact—No forest land or timberland is located within the project area; there is no potential to conflict with zoning for forest or timberland

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

No Impact—No forest land is located within the project area; no forest land would be converted to non-forest use.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact—The project would improve an existing interchange and involve the conversion of small portions of parcels next to existing roadways. It would not involve any other changes which could result in further conversion of farmland to other uses. There would be no impact.

3.2.3 Air Quality

CEQA Significance Determinations for 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.

The potential for the project to adversely impact air quality was assessed in the project's Air Quality Report (2019) and Section 2.2.6, Air Quality, of this document. The following discussion is based on those analyses.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact—The proposed project was included in the regional emissions analysis conducted by the San Joaquin Council of Governments for the conforming *2018 Regional Transportation Plan/Sustainable Communities Strategy*. Projects included in the Regional Transportation Plan/Sustainable Communities Strategy are consistent with the planning goals of State Implementation Plan adopted by local air quality management agencies.

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—Long-term operational emissions from motor vehicles operating on the roadway network were quantified using the Caltrans EMFAC model and vehicle activity data provided by the 2019 *Traffic Operations Analysis Report*. The emissions analysis presented in Table 2.2.6-2 in Section 2.2.6, Air Quality, indicates that operation of the project under Design Year (2043) conditions would increase particulate matter emissions compared with existing conditions and would decrease reactive organic gas, nitrogen oxide, carbon monoxide, and sulfur dioxide emissions. These results are exclusively due to factors external to the project. The increase in particulate matter is due to background growth in vehicles miles traveled from 2017 to 2043, because particulate matter emissions are primarily a function of vehicle miles traveled. The decreases in other pollutants are due to expected improvements in vehicle engine technology, fuel efficiency, and turnover in older, more heavily polluting vehicles, which reduces exhaust emissions.

Emissions effects resulting from implementation of the project under Opening Year (2023) and Design Year (2043) conditions are obtained through a comparison of with-project emissions to without-project emissions. As shown in Table 2.2.6-2, implementation of the project would result in no change in criteria pollutant emissions compared with No Build conditions. This is because the project is not capacity increasing and would not result in new trips or daily vehicle miles traveled relative to the No-Build Alternative.

The project has been determined to not be a Project of Air Quality Concern for localized particulate matter through the San Joaquin Council of Governments' interagency consultation process. The potential for the project to contribute to localized carbon dioxide hot spots was evaluated using the

Carbon Dioxide Protocol. Through this screening process, it was determined that the project is not expected to result in a new or more severe exceedance of either the National Ambient Air Quality Standards or California Ambient Air Quality Standards. The detailed carbon monoxide analysis is presented in the Air Quality Report.

Based on the above analyses, the project would not contribute a significant amount of criteria pollutant emissions during either construction or operation such that regional or local air quality would be substantially degraded. This impact would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact—Heavy-duty equipment would generate diesel particulate matter during roadway-widening activities. As shown in Table 2.2.6-3 in Section 2.2.6, Air Quality, particulate matter emissions would be minor (one to five pounds per day, depending on subphase) and only occur over a period of 18 months. The short-term construction period is much shorter than the 30-year exposure period typically associated with increased cancer risks. Diesel particulate matter from construction equipment would dissipate as a function of distance and would be lower at the nearest receptor locations. Construction of the proposed project would not result in a significant increase in cancer or non-cancer risks at nearby sensitive receptors.

There are no geologic features normally associated with naturally occurring asbestos (i.e., serpentine rock or ultramafic rock near fault zones) in or near the project area. There is no potential for impacts related to naturally occurring asbestos emissions during construction activities. The overcrossing, which may contain asbestos, would be modified during construction. Testing for asbestos has not been conducted at the time of preparation of this report. It is not known whether the overcrossing structure contains asbestos. If asbestos is encountered, the project would comply with the California Air Resource Board's asbestos regulations.

As discussed in Section 2.2.6, Air Quality, the Federal Highway Administration has issued an updated interim guidance using a tiered approach on how mobile air toxics for transportation projects should be evaluated. Based on the three project categories outlined in the Federal Highway Administration guidance, the proposed project would not cause a meaningful increase in regional mobile source air toxic emissions compared with those of the No-Build Alternative. The roadway widening and ramp realignments proposed as part of the project could result in localized changes in mobile source air toxic emissions, including moving some traffic closer to existing land uses. Therefore, under the proposed project, there may be localized areas where ambient concentrations of mobile source air toxic could be higher than under the No-Build Alternative. The localized increases in

mobile source air toxic concentrations would likely be most pronounced along the westbound exit ramp and loop entrance and along Mountain House/International Parkway, although there are no sensitive receptors within 2,000 feet of the project area. The magnitude and the duration of these potential increases compared with the No Build conditions cannot be reliably quantified because of incomplete or unavailable information in forecasting project-specific mobile source air toxic health impacts.

Based on the above analysis, the project would not expose receptors to substantial diesel particulate matter, asbestos, or mobile source air toxic concentrations. Likewise, as discussed under Impact c, neither construction nor operation of the project would generate criteria pollutant emissions that would deteriorate or impede progress of air quality goals as stated in the clean air plans, which have been adopted to achieve the health-protective ambient air quality standards. This impact would be less than significant.

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

Less Than Significant Impact—Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site(s). Such odors would quickly disperse to below detectable levels as distance from the site increases. Therefore, the impact would be less than significant.

3.2.4 Biological Resources

CEQA Significance Determinations for Biological Resources

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service?

Less Than Significant With Mitigation Incorporated—

Plants

One special-status plant species, the big tarplant, may be present within the project area. One area of suitable habitat for this species is present within the project area but had been recently burned when summer surveys were conducted. Therefore, it is not possible to determine if the species is present, and presence must be assumed. Disturbance or destruction of this species would be a significant impact. Implementation of the avoidance and minimization measures to conduct floristic surveys and implement protective measures as feasible and compensate for permanent impacts on special-

status plants, discussed in Section 2.3.2, Plant Species, would reduce this impact to a less-than-significant level.

Wildlife

The proposed project would result in temporary and permanent impacts on several natural communities that provide habitat for special-status wildlife species.

Western Burrowing Owl

Construction grading, excavation, and the movement of equipment and vehicles could injure and/or kill burrowing owl adults, nestlings, and eggs if present in burrows in project work areas. Project implementation would also result in the permanent and temporary impacts on suitable nesting and foraging habitat, including ruderal, wild oat grassland, and agriculture-cropland land cover types. The project would result in temporary impacts on 9.10 acres of ruderal, 2.66 acres of wild oat grassland habitat, and 0.61 acre of agriculture-cropland, and permanent impacts on 7.40 acres of ruderal, 13.38 acres of wild oat grassland habitat, and 0.52 acre of agriculture-cropland. With implementation of Caltrans standard specification to conduct preconstruction surveys for burrowing owl and the measures listed below, and discussed in Sections 2.3.1 and 2.3.3, impacts would be less than significant.

- Install Fencing and/or Flagging to Protect Sensitive Biological Resources
- Conduct Mandatory Environmental Awareness Training for Construction Personnel
- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats

Swainson's Hawk

A Swainson's hawk was observed in the biological study area during survey. The project would result in the removal of one potentially suitable nesting tree and construction could result in disturbance during the nesting season. There would be permanent and temporary impacts on foraging habitat, including weedy, wild oat grassland, and agriculture-cropland land cover types. The project would result in temporary impacts on 5.45 acres of weedy land, 2.66 acres of wild oat grassland habitat, and 0.61 acre of agriculture-cropland, and permanent impacts on 5.72 acres of weedy land, 5.81 acres of wild oat grassland habitat, and 0.52 acre of agriculture-cropland. With implementation of Caltrans standard specification to conduct preconstruction surveys for Swainson's hawks and the measures listed below, and discussed in Sections 2.3.1, 2.3.3, and 2.3.4, impacts would be less than significant.

- Install Fencing and/or Flagging to Protect Sensitive Biological Resources
- Conduct Mandatory Environmental Awareness Training for Construction Personnel

- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats
- Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds

Golden Eagle

The proposed project would result in permanent and temporary impacts on foraging habitat, including weedy land and wild oat grassland cover types. The project would result in temporary impacts on 9.10 acres of weedy land and 2.66 acres of wild oat grassland habitat, and permanent impacts on 7.40 acres of weedy land and 5.81 acres of wild oat grassland habitat. With implementation of the measures listed below, and discussed in Section 2.3.1, impacts would be less than significant.

- Conduct Mandatory Environmental Awareness Training for Construction Personnel
- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats

Loggerhead Shrike and White-Tailed Kite

There is suitable nesting habitat within the project area. If construction occurs during nesting season (February 1 to August 31) construction activity could have direct impacts on birds nesting in trees or shrubs. Project construction would also result in permanent and temporary impacts on foraging habitat, including weedy land, wild oat grassland, and agriculture-cropland land cover types. The project would result in temporary impacts on 9.10 acres of weedy land, 742.66 acres of wild oat grassland habitat, and 2.40 acres of agriculture cropland, and permanent impacts on 7.40 acres of weedy land, 5.81 acres of wild oat grassland habitat and 4.6 acres of agriculture-cropland. With implementation of the measures listed below, and discussed in Sections 2.3.1 and 2.3.3, impacts would be less than significant.

- Install Fencing and/or Flagging to Protect Sensitive Biological Resources
- Conduct Mandatory Environmental Awareness Training for Construction Personnel
- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats
- Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds

Tricolored Blackbird

Because there is no suitable nesting habitat near the project area, nesting habitat would not be affected. However, the project area provides foraging habitat for tricolored blackbirds. There would be permanent and temporary impacts on foraging habitat, including weedy land, wild oat grassland, and agriculture-cropland land cover types, and agriculture-cropland. The project would result in temporary impacts on 5.45 acres of weedy land, 2.66 acres of wild oat grassland habitat, and 0.61 acre of agriculture-cropland, and permanent impacts on 5.72 acres of weedy land, 5.81 acres of wild oat grassland habitat, and 0.52 acre of agriculture-cropland. With implementation of the measures listed below, and discussed in Sections 2.3.1 and 2.3.3, impacts would be less than significant.

- Install Fencing and/or Flagging to Protect Sensitive Biological Resources
- Conduct Mandatory Environmental Awareness Training for Construction Personnel
- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats
- Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds

American Badger

Construction activities could result in disturbance, injury, or mortality of individual badgers, if they are present. Project construction would also result in permanent and temporary impacts on foraging, resting, denning, and movement habitat, including weedy land, wild oat grassland, and agriculture-cropland land cover types. The project would result in temporary impacts on 5.45 acres of weedy land, 2.66 acres of wild oat grassland habitat, and 2.40 acres of agriculture-cropland, and permanent impacts on 5.72 acres of weedy land, 5.81 acres of wild oat grassland habitat, and 4.16 acres of agriculture-cropland. With implementation of Caltrans standard specification to conduct preconstruction surveys for special-status mammal dens and the measures listed below, and discussed in Sections 2.3.1 and 2.3.3, impacts would be less than significant.

- Install Fencing and/or Flagging to Protect Sensitive Biological Resources
- Conduct Mandatory Environmental Awareness Training for Construction Personnel
- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats

Townsend's Big-Eared Bat and Pallid Bat and Colonies of Roosting Non-Special-Status Bats

The proposed project would likely result in the disturbance of suitable roosting habitat, and construction activities could be conducted during the bat maternity season (April 1 through September 15). Construction activities and related noise and lighting could disturb roosting bats, potentially resulting in bat displacement. The road widening could result in some degradation of foraging habitat. With implementation of the measures listed below, and discussed in Sections 2.3.1 and 2.3.3, impacts would be less than significant.

- Install Fencing and/or Flagging to Protect Sensitive Biological Resources
- Conduct Mandatory Environmental Awareness Training for Construction Personnel
- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats
- Identify Suitable Roosting Habitat for Bats and Implement Avoidance and Protective Measures

Special-Status and Other Migratory Birds

If construction occurs during nesting season, construction activities could have direct impacts on birds nesting in trees or shrubs. The proposed project could result in increased mortality of individuals as a result of vehicle collisions as hawks fly across wider roadways for ramps. The closest suitable nesting trees are 0.5 mile from the project area; therefore, nesting habitat would not be affected. With implementation of the measures listed below, and discussed in Sections 2.3.1 and 2.3.3, impacts would be less than significant.

- Install Fencing and/or Flagging to Protect Sensitive Biological Resources
- Conduct Mandatory Environmental Awareness Training for Construction Personnel
- Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats
- Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or United States Fish and Wildlife Service?

No Impact—The only sensitive natural communities present in the project area are two ephemeral drainages, and two roadside drainage features.

Impacts on those features are discussed below. There is no riparian habitat or other sensitive natural community. There would be no impact.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant With Mitigation Incorporated—There are two ephemeral drainages, two roadside drainages and a detention basin within the project area.

Construction of the westbound on-ramp would place fill in 0.02 acre of ephemeral drainage and an additional 0.03 acre would be temporarily impacted. The southernmost ephemeral drainage is within the permanent impact area of the proposed project, and the northern ephemeral drainage is outside of both the permanent and temporary impact areas and would not be directly affected.

Construction of the proposed project would result in 0.06 acre of temporary and 0.05 acre of permanent impacts on roadside drainages. However, it is expected that roadside drainages would be replaced as part of the project design for stormwater drainage.

Implementation of avoidance and minimization measures discussed in Section 2.3.1 to install fencing or flagging to protect sensitive biological resources, to conduct mandatory environmental awareness training for construction personnel, and to conduct monitoring during construction in sensitive areas would reduce this impact. Implementation of a measure to compensate for loss of wetlands, would reduce this impact to a less-than-significant level.

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 Impact—The project would improve an existing interchange and would not introduce any new barriers to movement of wildlife species. Construction of the project may result in temporary barriers to movement of wildlife. No known nursery sites are located within the biological study area. Avoidance and minimization measures would ensure that any effects associated with construction of the project would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact—The *San Joaquin County General Plan* contains a policy to protect significant woodlands and heritage trees. No

woodlands or heritage trees occur within the project area. The same policy also protects rare, threatened, and endangered species and their habitats. With implementation of avoidance and minimization measures, impacts on habitat would be less than significant level.

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 project area is within the area covered by the *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan*. The city of Tracy has also adopted a Habitat Conservation Plan for the Swainson's hawk. The project, however, would not interfere with either plan and would comply with all requirements. There would be no impact.

3.2.5 Cultural Resources

CEQA Significance Determinations for Cultural Resources

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines 15064.5?

No Impact—There are no historical resources within the area of potential effects. The Delta-Mendota Canal (P-39-000089), located within 0.5 mile of the area of potential effects, would not be affected by project activities. The project involves improvements to an existing interchange and, therefore, would not affect any setting characteristics that convey the significance of the canal. There would be no impact on a historical resource.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines 15064.5?

Less Than Significant Impact—No archaeological resources, new or previously recorded, were identified in the project area. The project area is not considered sensitive for buried resources.

However, there is always the potential that buried cultural resources or human remains may be encountered during construction. Caltrans standard procedures to stop work in case of accidental discovery, described below, would ensure that these potential impacts would not be significant.

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

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact—As discussed above, the area of potential effects is not considered sensitive for buried resources, including human remains. However, there is always the potential that buried cultural resources including human remains may be encountered during construction. Caltrans standard procedures and state regulations, described below, would ensure that these potential impacts would not be significant.

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

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop 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 California Native American Heritage Commission, which would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact Caltrans District 10 Professionally Qualified Staff so that they may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

3.2.6 Energy

The 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.

CEQA Significance Determinations for Energy

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact—The project is needed to reduce congestion resulting from ongoing and planned development. In 2043, projected build out of the *Cordes Ranch Specific Plan* and regional traffic will result in the existing westbound I-205/Mountain House Parkway ramps operating at an unacceptable level of service (F) during both morning and evening peak

hours. Implementation of the project would result in transportation efficiencies such as improved on-ramps and off-ramps. As a result, there would be no increase in energy consumption during project operation.

The project's use of energy during construction and operations would be necessary to provide for improved transportation and would not be wasteful or inefficient.

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

No Impact—The project would not obstruct state or local plans for renewable energy or energy efficiency. There would be no impact.

3.2.7 Geology and Soils

CEQA Significance Determinations for Geology and Soils

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

No Impact—The project area is not located within or in the immediate vicinity of an Alquist-Priolo Earthquake Fault. Field surveys and literature review did not result in any evidence suggesting active faulting throughout or in the immediate vicinity of the project area. The nearest active fault is more than 1 mile to the southeast of the proposed project's construction footprint. Therefore, there would be no impact.

ii) Strong seismic ground shaking?

Less than Significant Impact—According to Earthquake Shaking Potential for California, the project area is in an area of moderate shaking potential. The project would be designed to Caltrans' seismic standards and a further, more detailed, geotechnical study would be conducted prior to final design, which would account for any potential for loss, injury, or death due to seismic ground shaking. Therefore, this impact would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact—Future construction may be underlain by Quaternary alluvial deposits which could be susceptible to liquefaction; however, adhering to the California Building Code and Caltrans' Highway

Design Manual would minimize for the risk of liquefaction. The liquefaction potential of the alluvial material would need to be analyzed further in a design-level geotechnical investigation to ensure the interchange is designed in a way that will prevent damage done by liquefaction (such as soil replacement, or limestone treatment). Therefore, this impact would be less than significant.

iv) Landslides?

No Impact—There is no risk of landslides in the project area because of the flat nature of the landscape. Best management practices and soil erosion controls would be implemented as part of the project design that would reduce the loss of topsoil. Therefore, there would be no impact.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant—The project would have very little potential to be susceptible to erosion/loss of topsoil because of the project area's generally gentle slope. Vegetation and use of other best management practices and avoidance measures listed in Section 2.2.2. would greatly reduce the risk of erosion and topsoil loss. Therefore, this impact would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

No Impact—The project area is not located on an unstable geologic unit, nor would project implementation have the potential to destabilize the underlying geologic unit resulting in landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, there would be no 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—Although the project is located on soils that are characterized as expansive (Capay clay, zero to one percent slopes, Major Land Resource Area 17; and Stomar clay loam, zero to two percent slopes), the project would not result in substantial direct or indirect risks to life and/or property. Building on expansive soils could cause foundations, underground utility lines, and pavement to crack and fail; however, the city of Tracy would be required to design and construct the interchange and associated project components in conformance with the California Building Code and Caltrans' Highway Design Manual. The California Building Code requires measures such as soil replacement, lime treatment, and post-tensioned foundations to offset expansive soils. With implementation of these measures, there would be 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—Not applicable. No septic tanks or other wastewater disposal systems are involved in the project; therefore, the soils' ability to support such systems are not relevant.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant With Mitigation Incorporated—There would be a chance the project would impact paleontological resources during the ground disturbance phase of construction. To avoid and minimize the likelihood of an impact occurring, Caltrans' standard measures to stop work would be implemented. A Paleontological Evaluation Report would be prepared, and if necessary, a Paleontological Mitigation Plan would be prepared and implemented.

3.2.8 Greenhouse Gas Emissions

CEQA Significance Determinations for Greenhouse Gas Emissions

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

and

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

Less than Significant Impact—Although the proposed project would result in greenhouse gas emissions during construction, it is expected that the project would not result in any increase in operational greenhouse emissions. Vehicle miles traveled is projected to increase as a result of growth from ongoing and planned development; however, as mitigation for the planned development, the proposed project is intended to improve operations and traffic flow, which would reduce greenhouse gas emissions. The project would not add travel lanes or result in new vehicle trips. Operational greenhouse gas emissions are projected to be the same under both future Build and No-Build alternatives, and less than existing (2017) emissions under both scenarios. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction greenhouse gas-reduction measures, the impact would be less than significant.

3.2.9 Hazards and Hazardous Materials

CEQA Significance Determinations for Hazards and Hazardous Materials

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Impact—Operation of the project would improve the interchange but would not result in any changes to the current conditions related to the transportation, use, and disposal of hazardous materials. Therefore, there would be no 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—Construction of the project would entail the transportation, use, and disposal of hazardous materials and therefore the potential that a spill could occur, exposing workers and the public to a health hazard. However, implementation of best management practices discussed in Section 2.2.5, Hazardous Waste and Materials, would reduce that the risk of accidents, and the impact would be less than significant.

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

No Impact—No existing or proposed schools are located within 0.25 mile of the project area; therefore, there is no potential to affect schools as result of the project.

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—The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact—The project area is not located within an airport land use or plan.

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

No Impact—The project is within the San Joaquin County's Emergency Operations Plan service area. As discussed under Sections 2.15, Traffic and Transportation/Pedestrian and Bicycle Facilities and 3.2.17, Transportation, a project-specific transportation management plan, would be developed and implemented before and during construction. The transportation management plan would follow Caltrans' Transportation Management Plan Guidelines and would include public information announcements, signage, coordination with emergency service providers, and construction scheduling coordination. There would be no impact on emergency response plans, emergency services or evacuation plans.

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

No Impact—The project area is located within an area of moderate fire hazard and is predominantly surrounded by open rangelands and the *Cordes Ranch Specific Plan* development. The project would improve an existing interchange and would not result in the location of either people or occupied structures in an area prone to wildfires, nor would it introduce new human presence or activity that could increase the potential for wildland fires. Therefore, there would be no impact.

3.2.10 Hydrology and Water Quality

CEQA Significance Determinations for Hydrology and Water Quality

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact—All project activities would be subject to existing regulatory requirements. During Project operation, the proposed project would be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Central Valley Water Board's Basin Plan, would act in accordance with related regulatory agencies guidelines, and meet the goals and objectives of the *San Joaquin County General Plan* and the *City of Tracy General Plan*. Discharge of pollutants from urban runoff would be minimized with implementation of practices required by the municipal stormwater management programs for San Joaquin County, the city of Tracy, and Caltrans, and other CEQA, federal, and state requirements. Therefore, construction and operation activities would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Impacts on water quality would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact—Groundwater dewatering would not be necessary for project operation and maintenance activities, and groundwater dewatering is not anticipated during construction. In the event that groundwater is encountered during construction, dewatering would be conducted on a one-time, temporary basis during the construction phase and would not deplete groundwater supplies. The proposed project would only minimally affect groundwater resources because the required excavations would occur on a temporary, short-term basis during the construction period. Construction activities would use commercially available water. No groundwater sources would be used as water supply for construction or operation of the project, and no groundwater pumping is required.

There would be minimal areas of additional impervious surface added, compared to the overall size of the groundwater basin. Recharge in the area would continue to occur through infiltration of precipitation. Therefore, the project would not affect groundwater levels or the capability for groundwater recharge within the localized groundwater aquifer area or the overall Tracy Subbasin. The project's minimal use of water would not deplete or interfere with groundwater supply or recharge or impede sustainable groundwater management of the basin. Therefore, there would be no impact on groundwater supplies or recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site;

Less Than Significant Impact—During construction, existing drainage patterns could temporarily be altered through grading, potentially resulting in temporary erosion. Best management practices would be implemented to manage runoff and potential erosion, as described in the Stormwater Pollution Prevention Plan and in compliance with the Construction General Permit. Good housekeeping practices identified in the Stormwater Pollution Prevention Plan would prevent runoff and contain associated sediment.

Minimal additional impervious surface would be added as part of the project. The proposed drainage would be similar to the existing drainage, and the existing drainage pattern would be maintained. Water resource management measures would limit disturbance of existing vegetation and permanent vegetation would be included. As a result, excess soil disturbance would be minimized, and associated soil erosion and siltation impacts would also be reduced. Further, revegetating exposed slopes, addition of biofiltration swales

or biofiltration strips, and installation of erosion and sediment control measures as identified in the Stormwater Pollution Prevention Plan would reduce erosion and siltation. This impact would be less than significant.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less Than Significant Impact—Project construction activities may temporarily alter existing drainage patterns and result in temporary increases in the rate or amount of local surface runoff and temporary flooding. Prior to rain, construction best management practices as identified in the Stormwater Pollution Prevention Plan would be in place to reduce surface runoff and temporary flooding. The minimal increase in impervious area would not cause on-site or off-site flooding. The proposed drainage would be similar to the existing drainage, with runoff directed by a combination of new and existing pipes, drainage inlets, and other storm drain facilities. The existing drainage pattern would be maintained, with flows draining into these ditches and channels. Drainage would ultimately be improved because the project would result in new drainage infrastructure and connections to the existing storm drain system that serves the site. To treat runoff from additional new impervious surface, the project would include biofiltration swales, biofiltration strips, or detention basins, which would reduce the volume of runoff entering the storm drainage system. Potential flooding would be no greater than existing conditions. Impacts would be less than significant.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) Impede or redirect flood flows?

No Impact—During construction, the drainage pattern of the site or area may be temporarily altered. Construction equipment would be relocated to minimize flood risks or redirect flood flows. The project would implement best management practices to control construction site runoff, ensure proper stormwater control and treatment, reduce the discharge of pollution to the storm drain system, and ensure sufficient storm drain capacity for the project. A drainage plan would be submitted for approval by the city of Tracy for on-site measures consistent with Tracy's Storm Water Management Program and other applicable stormwater standards and requirements. Drainage facilities would accommodate events up to and including a 100-year 24-hour storm. Therefore, the project would not impede or redirect flood flows. There would be no impact.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact—The project area is outside of the 100-year floodplain and is not near a large body of water. Thus, no risk of tsunami or seiche exists. There would be no impact.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact—The project is located within the San Joaquin County Water Management Plan area. The project is an interchange improvement project and would comply with the plan. There would be no impact.

3.2.11 Land Use and Planning

CEQA Significance Determinations for Land Use and Planning

Would the project:

a) Physically divide an established community?

No Impact—The project would improve an existing interchange. It would not introduce a new road or barrier between communities. There would be 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 project would improve an existing interchange and would affect only small portions of parcels zoned for agriculture and urban reserve. There are no known land use plans, policies, or regulations that were adopted for avoiding or mitigating environmental effects that apply to the project area or the immediate surroundings. Therefore, there would be no impact.

3.2.12 Mineral Resources

CEQA Significance Determinations for Mineral Resources

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact—There are no mapped mineral resource zones within the project area. Because there are no known mineral resources present, there would be 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—There are no mapped mineral resource zones within the project area according to the *San Joaquin County General Plan*, the *City of Tracy General Plan*, or the *Cordes Ranch Specific Plan*. There would be no impact.

3.2.13 Noise

CEQA Significance Determinations for Noise

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact—The traffic noise modeling documented in the Noise Study Report indicates that traffic noise levels would increase relative to existing conditions by up to eight decibels under the proposed project. This value does not exceed the threshold for a substantial increase in noise levels as defined by Caltrans (i.e., 12 decibels above existing levels). Therefore, under CEQA, this impact would be less than significant.

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

Less Than Significant Impact—Operation of construction equipment may result in perceptible levels of ground-borne vibration in the immediate vicinity of construction areas. Heavy equipment used during construction may include rollers, bulldozers, and heavy trucks. These types of equipment may produce peak particle velocity vibration levels of up to 0.21 inch per second at 25 feet, which could potentially be noticeable on an intermittent basis inside of utility buildings located next to Mountain House Parkway.

Use of heavy construction equipment would be temporary and cease once construction is complete. The types of equipment scheduled for use in the work areas would not produce a level of vibration that is likely to be noticeable. However, use of this equipment is not expected to result in a negative community reaction or cause building damage. Therefore, this impact would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact—The project area does not lie within an airport influence or plan area. There are no airports within 2 miles of the project area. Therefore, there would be no impact.

3.2.14 Population and Housing

CEQA Significance Determinations for Population and Housing

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact—The project would improve an existing interchange. It would not induce growth either directly through the introduction of housing or jobs, or indirectly, by making new areas accessible for development. There would be no impact.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact—The project would improve an existing interchange. Although some right-of-way would be acquired, the acquisition would not displace any residents and therefore would not necessitate the construction of housing elsewhere. There would be no impact.

3.2.15 Public Services

CEQA Significance Determinations for Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

Less Than Significant Impact—The proposed project would improve an existing interchange. There would be no need for additional fire protection and no new or expanded facilities would be necessary. Construction of the project may involve temporary lane closures, which could result in temporarily increased response times. This impact would be reduced to a less-than-significant level by the preparation and implementation of a Transportation Management Plan and early coordination with emergency service providers.

Police protection?

Less Than Significant Impact—The proposed project would improve an existing interchange. There would be no need for additional police protection and no new or expanded facilities would be necessary. Construction of the

project may involve temporary lane closures, which could result in temporarily increased response times. This impact would be reduced to a less-than-significant level by the preparation and implementation of a Transportation Management Plan and early coordination with emergency service providers.

Schools?

No Impact—The proposed project would improve an existing interchange. It would not introduce new students, which might strain the capacities of existing schools. Therefore, the project would not result in the need for any modifications to existing schools or the construction of new schools.

Parks?

No Impact—The proposed project would improve an existing interchange. It would not introduce new residences, which might strain the capacities of existing parks. Therefore, the project would not result in the need for any modifications to existing parks or the construction of new parks.

Other public facilities?

No Impact—The proposed project would improve an existing interchange. It would not introduce new residences, which might strain the capacities of other public facilities. Therefore, the project would not result in the need for any modifications to existing facilities or the construction of new facilities.

3.2.16 Recreation

CEQA Significance Determinations for Recreation

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?

No Impact—The proposed project would improve an existing interchange. It would not introduce new residences, which might lead to increased use of existing parks that could result in the degradation of the facility. Therefore, there would be no 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?

No Impact—The proposed project does not include any recreational facilities, nor would it result in additional population that would require the construction or expansion of recreational facilities. There would be no impact.

3.2.17 Transportation

CEQA Significance Determinations for Transportation

Would the project:

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

No Impact—The proposed project is consistent with the *San Joaquin County General Plan*, the *City of Tracy General Plan* and the *Cordes Ranch Specific Plan*. It is also included in the regional emissions analysis conducted by the San Joaquin Council of Governments for the conforming Regional Transportation Plan/Sustainability Communities Strategy. There would be no impact.

b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

No Impact—The proposed project is consistent with CEQA Guidelines Section 15064.3(b).

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

No Impact—The project involves interchange improvements and would be designed to avoid hazardous geometric design features and incompatible uses. There would be no impact.

d) Result in inadequate emergency access?

No Impact—The project would result in improved emergency access after project completion. During construction, emergency access would not be affected because a project-specific Transportation Management Plan would be developed and implemented before and during construction. The Transportation Management Plan includes a public information program and coordination with emergency service providers. The project would have no impact on emergency access.

3.2.18 Tribal Cultural Resources

CEQA Significance Determinations for 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:

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 Impact—There are no resources within the project area that are listed in or eligible for listing in the California Register of Historic Resources. The area is not considered to be sensitive for buried archaeological resources. In the case of an inadvertent discovery, Caltrans' standard measures to stop work in the event of an accidental discovery would ensure that impacts on any potential resources would be less than significant.

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 I of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision I 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 Impact—There are no resources within the project area that meet the criteria for listing in the National Register of Historic Places. The area is not considered to be sensitive for buried archaeological resources. Caltrans' standard measures to stop work in the event of an accidental discovery would ensure that impacts on any potential resources would be less than significant.

3.2.19 Utilities and Service Systems

CEQA Significance Determinations for Utilities and Service Systems

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact—The following utility companies have been determined to have facilities within the project vicinity: Pacific Gas and Electric, AT&T, Verizon, and Zayo (fiber network). During construction, potholing would be conducted to determine if any utilities were located in the construction area and need to be relocated. Any potential relocations would be handled on an as-needed basis in coordination with the utility owner to minimize interruptions in service. The physical impacts of the relocation of these facilities are addressed throughout this document.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact—The proposed project is an interchange improvement project and would only require water supply during construction. Water for construction would be provided by water trucks. Therefore, the project would not require any additional water supply and there would be 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—The proposed project would improve an existing interchange and would not result in a change of demand for wastewater treatment. Therefore, there would be 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?

Less Than Significant Impact—Any solid waste produced by the proposed project would be limited to construction waste. All solid waste created during construction would be hauled away and disposed of according to state and local standards. Impacts would be less than significant.

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

Less Than Significant Impact—Any solid waste produced by the proposed project would be limited to construction waste. All solid waste created during construction would be hauled away and disposed of according to state and local standards. Impacts would be less than significant.

3.2.20 Wildfire

CEQA Significance Determinations for Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact—The project is an interchange improvements project and would not have an impact on an emergency response or evacuation plans after construction. During construction, the existing overpass would remain open and all traffic would be limited to existing or new pavement. No detours are expected. A project-specific Transportation Management Plan would be developed and implemented before and during construction. The Transportation Management Plan would follow Caltrans' Transportation

Management Plan Guidelines and would include public information in multiple media; motorist information using radio announcements, traveler information systems, and signs; construction scheduling coordination; and other strategies as appropriate to the scale and scope of the project. Caltrans Standard Specifications Section 12, a part of all construction contracts, provides instructions on traffic control systems and devices to maintain traffic during construction within areas under Caltrans' control. The project would have no impact on emergency response plans or evacuation plans.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less Than Significant Impact—The project would improve the I-205/International Parkway Interchange. The project is designed to alleviate the impact of planned development and would not increase capacity; therefore, the potential for roadside fires would not increase. There would be no substantially increased risk related to pollutant concentrations or uncontrolled spread of wildfire. This impact would be less than significant.

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—The project involves interchange improvements and would not require installation of roads. Utilities might need to be relocated, but no new utilities would be required. Therefore, the project would not result in the installation of other infrastructure that may result in impacts on the environment.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact—The project involves interchange improvements and would not result in the relocation of structures. Other than the constructed slopes next to the overpass, site topography is relatively flat. Changes in site drainage and stormwater runoff control and treatment would be incorporated into project design and addressed through best management practices outlined in Section 2.2.2, Water Quality and Storm Water Runoff. Therefore, this impact would be less than significant.

3.2.21 Mandatory Findings of Significance

CEQA Significance Determinations for Mandatory Findings of Significance

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact With Mitigation Incorporated—The project would not result in impacts on cultural resources but would result in less than significant impacts with mitigation on biological resources. No jurisdictional wetlands or special plant species would be affected by project construction. Impacts on waters of the state would be minimal and compensatory mitigation would result in no net loss of the resource. Impacts on special-status animal species would be reduced to a less-than-significant level with the implementation of mitigation discussed in Sections 2.3.3, Animal Species, and 2.3.4, Threatened and Endangered Species. These impacts on special-status species and their habitat would not cause any populations to drop below self-sustaining levels, threaten to eliminate an animal community, or substantially reduce numbers or restrict the range of any species.

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.)

Less Than Significant With Mitigation Incorporated—As discussed in Section 2.4, Cumulative Impacts, although past, present, and future projects in the area may result in cumulative impacts on some resource areas, the contributions of the proposed project would not be considerable. Cumulative impacts on farmlands, traffic/transportation, aesthetics (visual resources), hydrology and floodplain, air quality, noise, and biological resources (wetlands and other waters, plant species, animal species, threatened and endangered species, and invasive species) are expected. With the implementation of avoidance, minimization, and mitigation measures identified in Chapters 2 and 3, the project’s contribution to those cumulative impacts would not be considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact—The proposed project would not result in substantial adverse effects on human beings, either directly or indirectly. The project would involve some property acquisition but would not result in any business or residential relocations. Relocation of utilities may result in limited service disruptions and construction may result in minor inconvenience for travelers. Coordination with utilities and preparation of a Transportation Management Plan are standard measures that would reduce the minimal impacts further. The proposed project is an interchange improvement project and would not introduce more population or spur growth that would affect public services or utilities.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by human activity, including carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, and various hydrofluorocarbons. Carbon dioxide is the most abundant greenhouse gas; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated carbon dioxide.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation covers the activities and policies aimed at reducing greenhouse gas emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher s). This analysis includes a discussion of both.

3.3.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source greenhouse reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

NEPA (42 United States Code 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. The Federal Highway Administration therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (Federal Highway Administration 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability” (Federal Highway Administration n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 United States Code 6201) and Corporate Average Fuel Economy Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy program on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress House of Representatives Bill 6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The United States Environmental Protection Agency in conjunction with the National Highway Traffic Safety Administration is responsible for setting greenhouse gas emission standards for new cars and light-duty vehicles to

significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The current standards require vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. The Environmental Protection Agency and National Highway Traffic Safety Administration are currently considering appropriate mileage and greenhouse gas emissions standards for 2022 through 2025 light-duty vehicles for future rulemaking.

The United State Environmental Protection Agency's authority to regulate greenhouse gas emissions stems from the United States Supreme Court decision in *Massachusetts v. Environmental Protection Agency* (549 U.S. 497 (2007)). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the United States Environmental Protection Agency finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the Environmental Protection Agency's assessment of the scientific evidence that form the basis for the Environmental Protection Agency's regulatory actions (United States Environmental Protection Agency 2009).

The National Highway Traffic Safety Administration and Environmental Protection Agency and issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce carbon dioxide emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018 through 2027 vehicles.

State

California has been innovative and proactive in addressing greenhouse gas emissions and climate change by passing multiple Senate and Assembly bills and executive orders including, but not limited to, the following:

Executive Order S-3-05 (June 1, 2005): The goal of this executive order is to reduce California's greenhouse gas emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and Senate Bill (SB) 32 in 2016.

Assembly Bill 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 codified the 2020 greenhouse gas emissions reduction goals outlined in Executive Order S-3-05, while further mandating that the California Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the

statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020 (Health and Safety Code Section 38551(b)). The law requires the California Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. The California Air Resources Board re-adopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 greenhouse reduction goals.

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a "Sustainable Communities Strategy" that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

Senate Bill 391, Chapter 585, 2009, California Transportation Plan: This bill requires the state's long-range transportation plan to identify strategies to address California's climate change goals under Assembly Bill 32.

Executive Order B-16-12 (March 2012) orders State entities under the direction of the Governor, including the California Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015) establishes an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directs the California Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every three years, and to ensure that its provisions are fully implemented.

Greenhouse gases differ in how much heat each trap in the atmosphere (global warming potential). Carbon dioxide is the most important greenhouse gas, so amounts of other gases are expressed relative to carbon dioxide, using a metric called “carbon dioxide equivalent”. The global warming potential of carbon dioxide is assigned a value of one, and the global warming potential of other gases is assessed as multiples of carbon dioxide

Senate Bill 32, Chapter 249, 2016, codifies the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

Senate Bill 1386, Chapter 545, 2016, declared “it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state’s greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”

Assembly Bill 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

Senate Bill 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles travelled, to promote the state’s goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

Senate Bill 150, Chapter 150 2017, Regional Transportation Plans: This bill requires California Air Resources Board to prepare a report that assesses progress made by each Metropolitan Planning Organization in meeting their established regional greenhouse gas emission reduction targets.

Executive Order B-55-18, (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing greenhouse gas emissions.

3.3.2 Environmental Setting

The proposed project is near and in the city of Tracy in western San Joaquin County, in the northern part of the San Joaquin Valley. Land uses within the project corridor are primarily agriculture, industrial, and transportation, sited amid gently undulating terrain and mostly ruderal vegetation and agricultural fields. Under existing conditions, the I-205/Mountain House Parkway

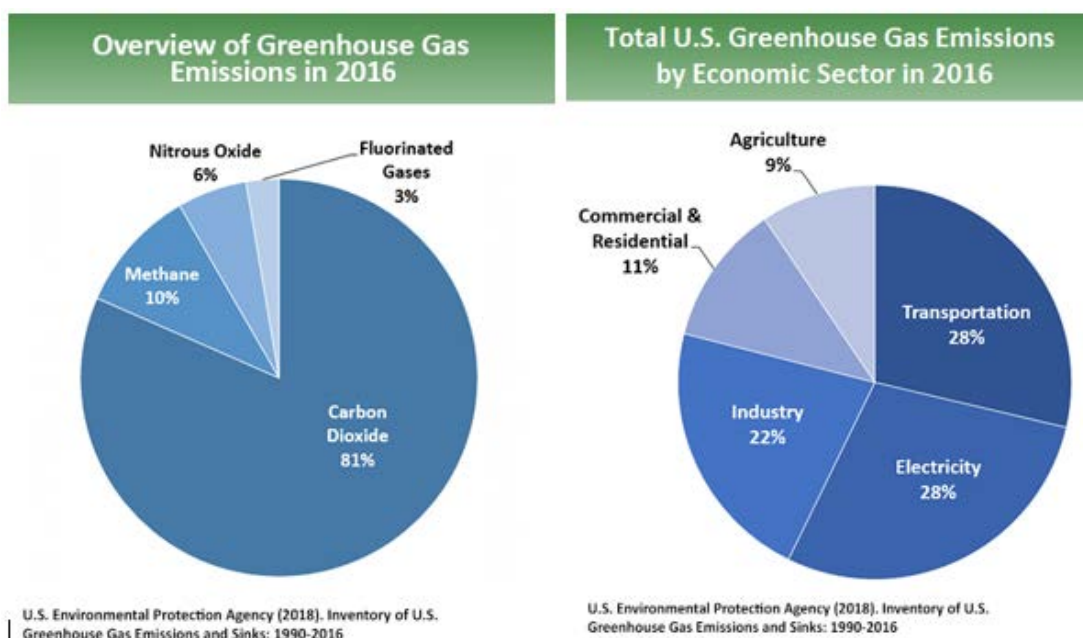
Interchange serves a combination of traffic to and from the *Mountain House Specific Plan* Area (located north of I-205) in San Joaquin County and the early phases of development in the *Cordes Ranch Specific Plan* Area, located south of I-205 in Tracy. Because of congestion on I-205, I-580, and the Altamont Pass to and from the San Francisco Bay Area, a significant amount of commuter traffic uses the I-205/Mountain House Parkway Interchange and Grant Line Road to bypass I-205 during the morning and evening peak periods.

The San Joaquin Council of Governments' *Regional Transportation Plan/Sustainable Communities Strategy*, the *San Joaquin County General Plan*, the *City of Tracy Transportation Master Plan*, and the *City of Tracy General Plan* guide transportation and housing development in the project area.

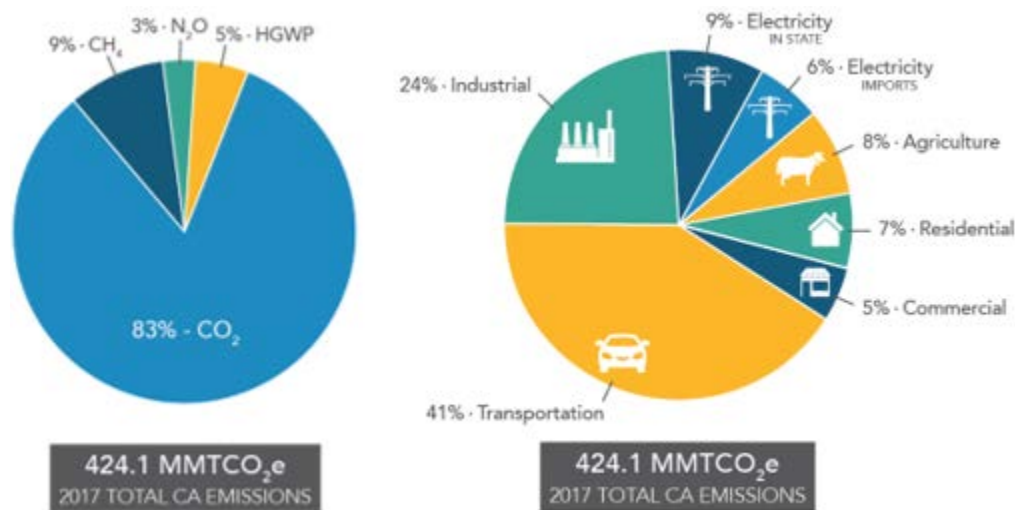
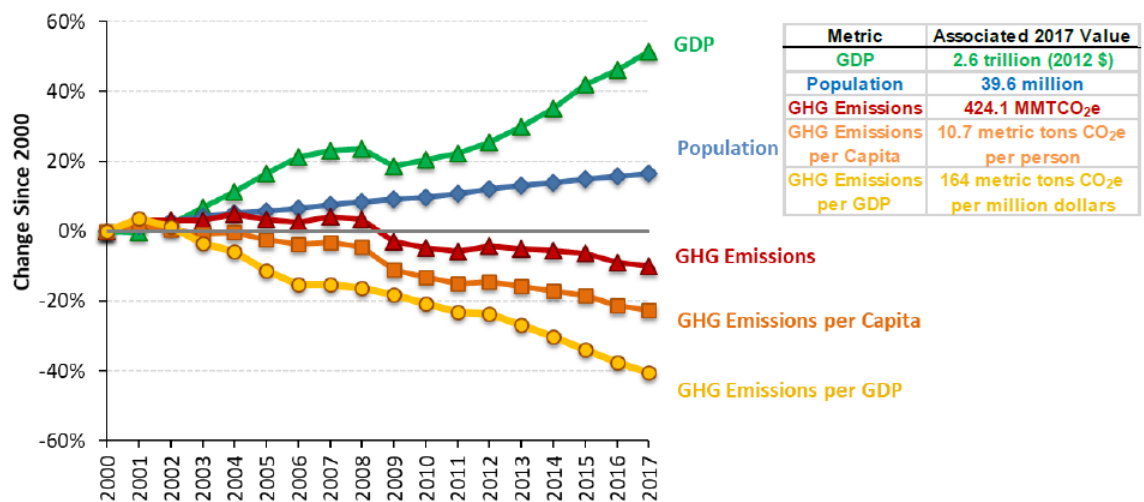
A greenhouse gas emissions inventory estimates the amount of greenhouse gases discharged into the atmosphere by specific sources over time, such as a calendar year. Tracking annual greenhouse gas emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. The United States Environmental Protection Agency is responsible for documenting greenhouse gas emissions nationwide, and the California Air Resources Board does so for the state, as required by Health and Safety Code Section 39607.4.

National Greenhouse Gas Inventory

The United States Environmental Protection Agency prepares a national greenhouse gas inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of greenhouse gases in the United States, reporting emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. It also accounts for emissions of carbon dioxide that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store carbon dioxide (carbon sequestration). The 1990 through 2016 inventory found that of 6,511 million metric tons of carbon dioxide equivalent greenhouse gas emissions in 2016, 81 percent consist of carbon dioxide, 10 percent are methane, and 6 percent are nitrous oxide; the balance consists of fluorinated gases (Environmental Protection Agency 2018). In 2016, greenhouse gas emissions from the transportation sector accounted for nearly 28.5 percent of United States’ greenhouse gas emissions (see Figure 3.4-1).

Figure 3.4-1. United States 2016 Greenhouse Gas Emissions**State Greenhouse Gas Inventory**

California Air Resources Board collects greenhouse gas 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 greenhouse reduction goals. The 2019 edition of the greenhouse emissions inventory found total California emissions of 424.1 million metric tons of carbon dioxide equivalent for 2017, with the transportation sector responsible for 41 percent of total greenhouse gases (see Figure 3.4-2) (California Air Resources Board 2019a). It also found that overall statewide greenhouse gas emissions declined from 2000 to 2017 despite growth in population and state economic output (see Figure 3.4-2) (California Air Resources Board 2019b).

Figure 3.4-2. California 2017 Greenhouse Gas Emissions**Figure 3.4-3. Change in California Gross Domestic Product, Population, and Greenhouse Gas Emissions Since 2000**

Assembly Bill 32 required the California Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020, and to update it every five years. California Air Resources Board 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 Executive Order B-30-15 and SB 32. The Assembly Bill 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce greenhouse gas emissions.

Regional Plans

The California Air Resources Board sets regional targets for California's 18 Metropolitan Planning Organizations to use in their Regional Transportation Plans/Sustainable Communities Strategies to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percent reduction of passenger vehicle greenhouse emissions per person from 2005 levels. The proposed project is included in the San Joaquin Council of Governments' Regional Transportation Plan/Sustainable Communities Strategy. The regional reduction targets for the San Joaquin Council of Governments are 12 percent by 2020 and 15 percent by 2035 (California Air Resources 2019c).

In addition to the San Joaquin Council of Governments' Regional Transportation Plan/Sustainable Communities Strategy, the *San Joaquin County General Plan*, the city of Tracy's Transportation Management Plan (2012), the *City of Tracy General Plan* (2011), and the *City of Tracy Sustainability Action Plan* (2011) contain goals and policies related to greenhouse gases and climate change. These goals are summarized in Table 3.4-1.

Table 3.4-1. Applicable Greenhouse Gas Reduction Policies from Regional Plans

Title	Greenhouse Gas Reduction Policies or Strategies
San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy	<ul style="list-style-type: none"> • Policy: Maximize Mobility and Accessibility • Strategy Number 4. Improve Regional Transportation System Efficiency
San Joaquin County General Plan 2035 Policy Document	<ul style="list-style-type: none"> • Public Health and Safety Element • Goal PHS-6. To reduce greenhouse gas emissions as part of the Statewide effort to combat climate change. • Transportation Greenhouse Gas Reduction Strategies: 0.05 percent reduction in vehicle miles traveled based on percentage of streets with planned improvements. • Public Facilities and Services Element—Transportation and Mobility • TM-2.4: Rural Complete Streets. The County shall strive to serve all users on rural roadways in the County and shall design and construct rural roadways to serve safely bicyclists, transit passengers, and agricultural machinery operators. • TM-4.3 Bicycle Safety. The County shall support bicycle safety programs for children and commuters in the County. • TM-4.4 Safe Pedestrian Crossings • TM-4.12 Sidewalk Design

Title	Greenhouse Gas Reduction Policies or Strategies
City of Tracy General Plan	<ul style="list-style-type: none"> • Air Quality Element • Goal AQ-1. Improved air quality and reduced greenhouse gas emissions • Action A5. The City shall evaluate the installation of light emitting diodes or similar technology for traffic, street and other outdoor lighting where feasible. • Objective AQ-1.3 Provide a diverse and efficient transportation system that minimizes air pollutant and greenhouse gas emissions. • Circulation Element • Goal CIR-1 A roadway system that provides access and mobility for all of Tracy's residents and businesses while maintaining the quality of life in the community. • Policy P1. ...Enhance multi-modal transportation by increasing mobility and improving safety for autos, trucks, transit, pedestrians and bicyclists. • Objective CIR-1.8 Minimize transportation-related energy use and impacts on the environment. • Policy P2. When possible, road construction and repair projects shall use sustainable materials. • P3. The City shall encourage the use of non-motorized transportation and low-emission vehicles.
City of Tracy Citywide Roadway & Transportation Master Plan	<ul style="list-style-type: none"> • The TMP builds upon the goals and objectives as defined in the Circulation Element of the City's General Plan (July 2010) and the Sustainable Action Plan (February 1, 2011).
City of Tracy Sustainability Action Plan	<ul style="list-style-type: none"> • Transportation and Land Use Target • Target Number 6a: 20 percent reduction in the community vehicle miles traveled per capita from current (2006) levels. • Sustainability Measures • T-10: Ramp Metering on I-205. Work with Caltrans and the San Joaquin Council of Governments to implement ramp metering on I-205 to minimize congestion-related greenhouse gas emissions from both through trips and trips generated by Tracy that use I-205.

3.3.3 Project Analysis

Greenhouse gas emissions from transportation projects can be divided into those produced during operation of the State Highway System and those produced during construction. The primary greenhouse gases produced by the transportation sector are carbon dioxide, methane, nitrous oxides, and hydrofluorocarbons. Carbon dioxide emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of methane and nitrous oxide are emitted during fuel combustion. A small amount of hydrofluorocarbon emissions is included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public Resources Code Section 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (*Cleveland National Forest*

Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130)).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

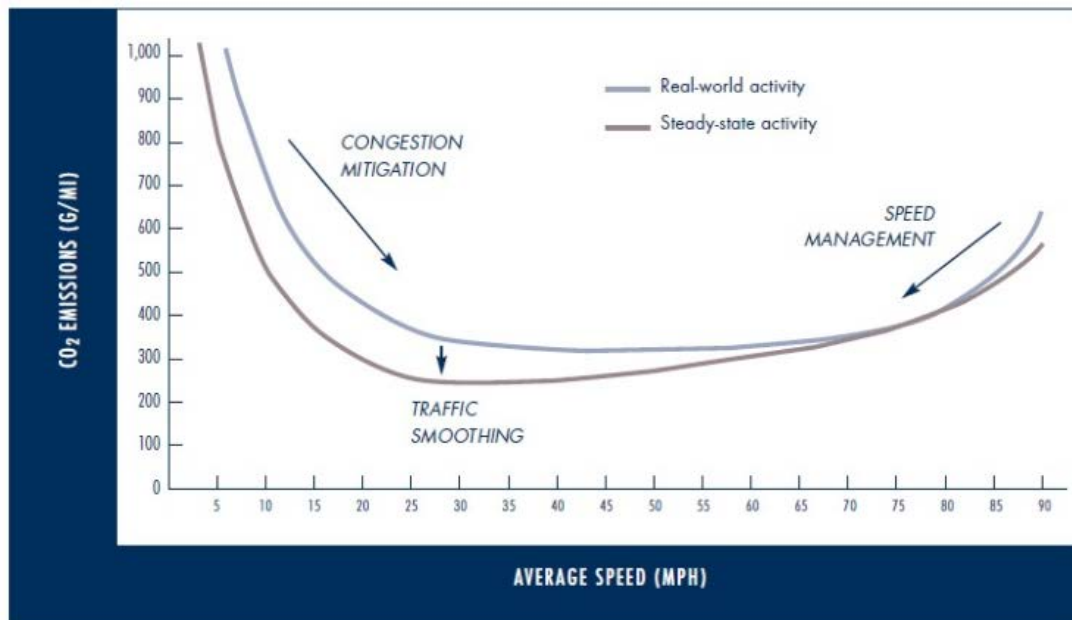
Operational Emissions

Carbon dioxide accounts for 95 percent of transportation greenhouse emissions in the United States. The largest sources of transportation-related greenhouse gas emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of greenhouse gas emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, and trains, as well as pipelines and lubricants. Because carbon dioxide emissions represent the greatest percentage of greenhouse gas emissions it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

The highest levels of carbon dioxide from mobile sources such as automobiles occur at stop-and-go speeds (0 to 25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0 to 25 miles per hour (Barth and Boriboonsomsin 2010) (see Figure 3.4-4). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, greenhouse gas emissions, particularly carbon dioxide, may be reduced.

Four primary strategies can reduce greenhouse gas emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower greenhouse gas-emitting fuels, and (4) improving vehicle technologies and efficiency. To be most effective, all four strategies should be pursued concurrently.

Figure 3.4-4. Possible Use of Traffic Operation Strategies in Reducing On-Road Carbon Dioxide Emissions



The proposed project is identified in San Joaquin Council of Governments' 2018 Regional Transportation Plan/Sustainable Communities Strategy under project ID SJ14-2003. The Regional Transportation Plan/Sustainable Communities Strategy contains adopted policies strategies for greenhouse gas emissions reduction from transportation sources on a regional scale. The Build Alternative directly supports the 2018 Regional Transportation Plan/Sustainable Communities Strategy "Maximize Mobility and Accessibility" policy, Strategy Number 4, Improve Regional Transportation System Efficiency, by reducing vehicle delay and congestion. This policy and strategy contribute to the overall greenhouse gas reduction efforts from mobile sources within the San Joaquin Council of Governments region. greenhouse gas analysis for the proposed project incorporates by reference the greenhouse gas analysis included in Section 4.9 of the Draft Environmental Impact Report for the 2018 Regional Transportation Plan/Sustainable Communities Strategy as background setting information. The Draft Environmental Impact Report for the 2018 Regional Transportation Plan/Sustainable Communities Strategy found that the Regional Transportation Plan/Sustainable Communities Strategy would not impede attainment of the State 2030 and 2050 emissions targets (San Joaquin Council of Governments 2018).

The proposed project incorporates elements that support a connected multi-modal transportation system. Specifically, complete pedestrian and bicycle facilities would be provided through the interchange as part of the *City of Tracy Bicycle Plan*. These facilities would improve bicycle and pedestrian safety and support a mode shift to local active transit. Because the proposed

project is mitigation to address traffic from the *Cordes Ranch Specific Plan*, which is primarily comprised of fulfillment centers, bus transit alternatives would have limited effectiveness for reducing project generated vehicle miles traveled and were therefore eliminated from consideration. Four public bus service types are operated in the city of Tracy, including fixed route, dial-A-ride, intercity, and inter-regional. Regional commuter rail service is also provided by the Altamont Corridor Express and Amtrak San Joaquins, both of which stop in Tracy. Operational enhancements to both Altamont Corridor Express and Amtrak San Joaquins are planned, providing a stronger commuter link between northern San Joaquin Valley and the Bay Area (San Joaquin Council of Governments 2018).

Greenhouse gas emissions for existing year (2017), Opening Year (2023)¹, and Design Year (2043) with and without project conditions were evaluated through modeling using the Caltrans EMFAC2014 model and vehicle activity data provided by the project traffic engineer, Fehr and Peers (in 2019). As shown in Table 3.4-2, implementation of the Build Alternative would result in no change in greenhouse gas emissions compared with No Build conditions. This is because the project would not increase capacity and would not result in new trips or increase vehicle miles traveled relative to the No-Build Alternative, according to the Traffic Operation Analysis report completed in August 2019. Although average peak hour vehicle speeds through the I-205/Mountain House Parkway Interchange would improve because of the proposed project, there would be minimal effects on overall vehicle miles traveled in the transportation study area, and, consequently, no change in emissions. Greenhouse gases would decrease relative to existing conditions, primarily because of improvements in vehicle engine technology, fuel efficiency, and turnover in older, more heavily polluting vehicles.

**Table 3.4-2. Summary of Operational Greenhouse Gas Emissions
(metric tons per year)**

Scenario/Analysis Year	Carbon Dioxide Equivalent	Annual Vehicle Miles Traveled ^a
Existing Year (2017)	868,255	1,905,421,416
Opening Year (2023)—No-Build Alternative	814,705	2,058,223,907
Opening Year (2023)—Build Alternative	814,705	2,058,223,907
Design Year (2043)—No-Build Alternative	733,101	2,669,433,871
Design Year (2043)—Build Alternative	733,101	2,669,433,871

Note: Modeled using CT-EMFAC2014.

¹ The traffic analysis originally assumed the project would be open-to-traffic in 2022. However, a one-year delay from 2022 to 2023 would not materially affect the traffic operations analysis, and as such, the vehicle volumes and intersection analysis presented in the Traffic Operations Analysis Report for the proposed project is representative of Opening Year conditions in 2023.

^a Annual vehicle miles traveled values derived from Daily vehicle miles traveled values multiplied by 347, per California Air Resources Board methodology (California Air Resources Board 2008).

While CT-EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its greenhouse gas emission rates are based on tailpipe emission test data. 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. greenhouse gas emissions quantified using CT-EMFAC are therefore estimates and may not reflect actual physical emissions. Though CT-EMFAC is currently the best available tool for calculating greenhouse gas emissions from mobile sources, it is important to note that the greenhouse gas results are only useful for a comparison among alternatives.

Construction Emissions

Construction greenhouse gas emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

With innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

The project's construction emissions were calculated using the Roadway Construction Emissions Model Version 9.0. The model estimates emissions using a spreadsheet based on various parameters regarding the type of construction, area of disturbance, construction duration, and year of construction. Table 3.4-3 shows construction-period greenhouse gas emissions for the Build Alternative, which are 2,668 metric tons of carbon dioxide equivalent over the 2-year construction duration. Measures to reduce construction emissions include maintenance of construction equipment and vehicles, limiting of construction vehicle idling time, and scheduling and routing of construction traffic to reduce engine emissions.

Table 3.4-3. Summary of Construction Greenhouse Gas Emissions under the Build Alternative (metric tons per year)^a

Year	Carbon Dioxide	Methane	Nitrous Oxide	Carbon Dioxide Equivalent
Year 1	1,689	Less than 1	Less than 1	1,751

Year	Carbon Dioxide	Methane	Nitrous Oxide	Carbon Dioxide Equivalent
Year 2	887	Less than 1	Less than 1	916
Total	2,576	Less than 1	Less than 1	2,668

Note: Emissions estimated using the Sacramento Metropolitan Air Quality Management District Road Construction Model, version 9.0 using project-specific data provided by design staff.

^a The emissions analysis was conducted using emission factors for 2021 and 2022 conditions. Because the project will now be constructed in 2022 and 2023, and emission factors decline annually due to fleet turnover, actual emissions will likely be lower than those presented above (Choa pers. comm)

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all California Air Resources Board emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

CEQA Conclusion

Although the proposed project would result in greenhouse gas emissions during construction, it is expected that the project would not result in any increase in operational greenhouse gas emissions. Vehicle miles traveled is projected to increase as a result of growth from ongoing and planned development; however, as mitigation for the planned development, the proposed project is intended to improve operations and traffic flow, which would reduce greenhouse gas emissions. The project would not add travel lanes or result in new vehicle trips. Operational greenhouse gas emissions are projected to be the same under both future Build and No-Build alternatives, and less than existing (2017) emissions under both scenarios. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction greenhouse gas-reduction measures, the impact would be less than significant.

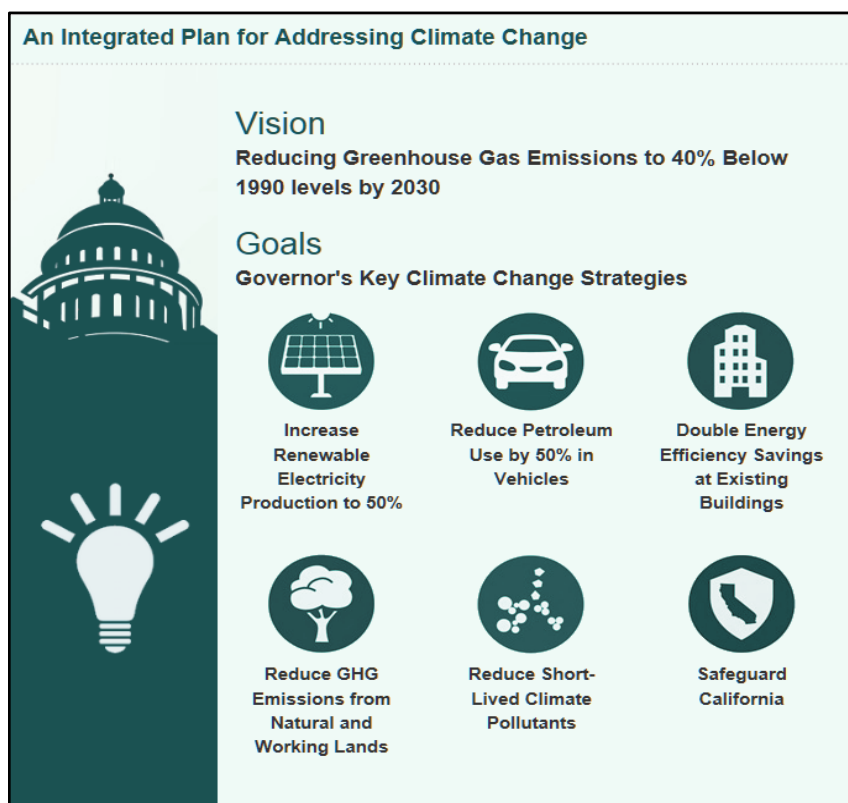
Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

3.3.4 Greenhouse Gas Reduction Strategies

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 greenhouse gas emissions targets. Former Governor Edmund G. Brown promoted greenhouse gas reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California* (see Figure 3.4-5).

Figure 3.4-5. California Climate Strategy



The transportation sector is integral to the people and economy of California. To achieve greenhouse gas 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. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

Senate Bill 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above-ground and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Executive Order B-30-15, issued in April 2015, and Senate Bill 32 (2016), set an interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (2040)

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with carbon dioxide reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

Senate Bill 391 (Liu 2009) requires the California Transportation Plan to meet California's climate change goals under Assembly Bill 32. Accordingly, the California Transportation Plan 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs. While Metropolitan Planning Organizations have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, California Transportation Plan 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce greenhouse gas emissions, among other goals. Specific performance targets in the plan that will help to reduce greenhouse gas emissions include:

- Increasing percentage of non-auto mode share
- Reducing vehicle miles traveled
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) greenhouse gas emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce greenhouse gas emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's Regional Transportation Plan/Sustainable Communities Strategy; contribute to the State's greenhouse gas reduction targets and advance transportation-related greenhouse gas emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 Climate Change (June 22, 2012) is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce greenhouse gas emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project.

- Caltrans Standard Specifications such as Section 14-9.02, Air Pollution Control, require contractors to comply with all Federal, State, and local air pollution control rules, regulations, and ordinances. Requirements such as idling restrictions and keeping engines properly tuned reduce emissions, including greenhouse gas emissions.
- A Transportation Management Plan will be prepared during the design phase of the project to minimize traffic disruptions from project construction. Minimizing traffic delays during construction will help reduce greenhouse gas emissions from idling vehicles.
- Per Caltrans standards for energy efficient roadway lighting, the project will use energy efficient light-emitting diode lighting fixtures.
- Bicycle and pedestrian facility improvements included in the project design support these alternative modes of transportation to reduce vehicle use emissions.

- A lifecycle cost analysis for pavements will be prepared to support the design and installation of long-life pavement structures.

3.3.5 Adaptation

Reducing greenhouse gas 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 will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and the Federal Highway Administration NEPA regulations, policies, and guidance.

The United States Global Change Research Program delivers a report to Congress and the president every four years, in accordance with the Global Change Research Act of 1990 (15 United States Code 2921 et seq.). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (United States Global Change Research Program 2018).

The United States Department of Transportation Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of the Department of Transportation in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain

effective in current and future climate conditions” (United States Department of Transportation 2011).

Federal Highway Administration order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The Federal Highway Administration has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (Federal Highway Administration 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California’s Fourth Climate Change Assessment* (2018) is the state’s effort to “translate the state of climate science into useful information for action” in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.”
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the “capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience”. Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the “susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt.” Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is

often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

Executive Order S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

Executive Order S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (Sea-Level Rise Guidance) in 2010, with instructions for how state agencies could incorporate “sea-level rise projections into planning and decision making for projects in California” in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California—An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

Executive Order B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This executive order recognizes that effects of climate change other than sea-level rise also threaten California’s infrastructure. At the direction of Executive Order B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

Assembly Bill 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure*—Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence*—Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization*—Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Analysis

Sea-Level Rise

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts on transportation facilities due to projected sea-level rise are not expected.

Floodplains

The project area does not contain any naturally occurring water bodies; the California Aqueduct is a built feature immediately east of the project area. Most stormwater runoff from the existing interchange is conveyed as sheetflow and percolates into adjacent unpaved areas; berms along the California Aqueduct prevent runoff from reaching it (ICF International 2015). The San Joaquin County flood zone viewer shows that the project area is in a Federal Emergency Management Agency Zone X, an area determined to be outside the 0.2 percent annual chance (500-year) flood. While future climate change is projected to bring less frequent but more intense storm events in California, specific projections for the local project area are not available. Nonetheless, the project would incorporate temporary and permanent stormwater best management practices including construction and maintenance of biofiltration strips and biofiltration swales to treat stormwater runoff. Materials and design features would be selected for their resilience to extremes in precipitation and temperature.

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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 consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team meetings, interagency coordination meetings, and letters and correspondence. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Coordination during Preparation of Technical Studies and the Initial Study/Categorical Exclusion

The following agency coordination took place during preparation of the technical studies and the Draft Initial Study.

Coordination for cultural resources included contacts as discussed below.

- Central California Information Center: A cultural resources records search was obtained from the Central California Information Center on August 8, 2017.
- California Native American Heritage Commission: A letter was sent on March 19, 2019 to the California Native American Heritage Commission to request a search of the Sacred Lands File and to request a list of Native American representatives who may be able to provide information about resources of concern to them located within or next to the Area of Potential Effects. The Native American Heritage Commission responded on March 26, 2019, provided a list of Native American contacts and stated that the Sacred Lands File had no records of sacred lands in the immediate vicinity of the Area of Potential Effects.
- California Valley Miwok Tribe: A letter was sent on May 6, 2019, and a follow up phone call was made on May 13, 2019. The California Valley Miwok Tribe indicated that they would like to be informed if any cultural materials were encountered.
- United Auburn Indian Community of the Auburn Rancheria: A letter was sent on May 6, 2019, and a follow up phone call was made on May 13, 2019. They have indicated that they have chosen not to consult on this project.

- North Valley Yokuts Tribe: A letter was sent on May 6, 2019, and a follow up phone call was made on May 13, 2019. The North Valley Yokuts have indicated that they would like to consult on this project and consultation is ongoing.
- Wilton Rancheria: A letter was sent on May 6, 2019, and a follow up phone call was made on May 13, 2019. The Wilton Rancheria has expressed interest in monitoring during construction. Consultation is ongoing.
- Buena Vista Rancheria of Me-Wuk Indians: A letter was sent on May 6, 2019, and a follow up phone call was made on May 13, 2019. As of this writing, no response has been received.
- Lone Band of Miwok Indians: A letter was sent on May 6, 2019, and a follow up phone call was placed on May 25, 2019. At the request of Jeremy Dutschke, Cultural Committee Member, the letter that had been sent earlier was forwarded. As of September 3, 2019, there has been no further communication from the Lone Band.
- California Valley Miwok Tribe/Sheep Rancheria of Me-Wuk Indians of California: A letter was sent on May 6, 2019, and a follow up phone call was made on May 13, 2019. As of this writing, no response has been received.
- United States Fish and Wildlife Service: An official species listed was obtained from the United States Fish and Wildlife Service, Sacramento Fish and Wildlife Office, on December 3, 2018.
- National Marine Fisheries Service: An unofficial species list was obtained from the National Oceanic and Atmospheric Administration, National Marine Fisheries Service, West Coast Region on May 3, 2019.
- California Department of Fish and Wildlife: An official species list was obtained from the California Department of Fish and Wildlife listing species from the California Natural Diversity Database on September 29, 2019.
- Interagency Consultation: The project underwent Interagency Consultation through the San Joaquin Council of Governments interagency consultation process, in which memos requesting concurrence were circulated to the Interagency Consultation partners (the United States Environmental Protection Agency and the Federal Highway Administration).
- The United States Environmental Protection Agency and the Federal Highway Administration concurred that the project is not a project of air quality concern in May 8, 2019 and May 14, 2019, respectively. Documentation is included in Appendix H.

4.2 Public Comments on the Initial Study/Categorical Exclusion and Responses

4.2.1 Public Circulation

Caltrans will circulate the draft environmental document for a 30-day review by agencies and members of the public. Upon completion of the public review and comment period, written responses to all comments will be prepared and made part of the final environmental document for consideration by decision-makers for the project.

Chapter 5 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

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Katrina Sukola, ICF Water Quality Specialist. M.Sc., Chemistry, University of Manitoba; 15 years of environmental planning experience. Contribution: Floodplain/Hydrology, Water Quality/Stormwater.

Ellen Unsworth, ICF Geologist. M.S., Interdisciplinary Studies (Geology, Biology, Technical Communications), Boise State University, Idaho; 20 years environmental planning experience. Contribution: Geology and Paleontology Senior Review.

Jason Volk, ICF Acoustical Engineer. M.S., Mechanical Engineering, North Carolina State University, Raleigh. 19 years noise analysis experience. Contribution: Noise.

Jonathan “Hunter” Watkins, ICF Environmental Planner. B.S., Environmental Studies (minor in GIS), California State University, Sacramento; 6 years of environmental planning and GIS experience. Contribution: Geology, Paleontology, GIS, Project Coordination.

Lisa Webber, ICF Senior Botanist/Wetland Ecologist. M.S., Botany, University of Massachusetts, Amherst; 29 years botany and wetland ecology experience. Contribution: Plant Species, Wetlands, and Invasive Species Senior Review.

Laura Yoon, ICF Air Quality Specialist. M.S., Environmental Management, University of San Francisco; 10 years air quality and climate change analysis experience. Contribution: Air Quality, Greenhouse Gas.

Appendix A Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION

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Making Conservation
a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:
<https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

A blue ink signature of Toks Omishakin, consisting of a stylized 'T' followed by a series of loops and a horizontal line.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix B Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program DECLARATION OF POLICY

“The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole.”

The Fifth Amendment to the United States Constitution states, “No Person shall...be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation.” The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

FAIR HOUSING

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee to see that all payments and benefits are fully used and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state’s relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit

organization should commit to purchase or rent a replacement property without first contacting a Department relocation advisor.

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. Caltrans will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are “decent, safe, and sanitary.” Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm, and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable “decent, safe, and sanitary” replacement dwelling, available on the market, is offered to them by Caltrans.

RESIDENTIAL RELOCATION PAYMENTS

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible

for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 90 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate.

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable “decent, safe, and sanitary” replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below. To receive any relocation benefits, the displaced person must buy or rent and occupy a “decent, safe and sanitary” replacement dwelling within one year from the date Caltrans takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 90 days and tenants in legal occupancy prior to Caltrans’ initiation of negotiations. The one-year eligibility period in which to purchase and occupy a “decent, safe and sanitary” replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 Code of Federal Regulations 24) contain the policy and procedure for implementing the Last Resort Housing Program on Federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

NONRESIDENTIAL RELOCATION ASSISTANCE

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

- Moving expenses may include the following actual, reasonable costs:
- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an

Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.

- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to \$2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to \$25,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than \$1,000 nor more than \$40,000.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, except for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans' Division of Right-of-Way and Land Surveys. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Appendix C Special-Status Tables

Bound Separately

Appendix D Avoidance, Minimization and/or Mitigation Summary

To ensure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record that follows) would be implemented. During project design, avoidance, minimization, and/or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in the Environmental Commitments Record are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. Because the following Environmental Commitments Record is a draft, some fields have not been completed; they will be filled out as each of the measures is implemented.

Note: Some measures may apply to more than one resource area. Duplicated or redundant measures have not been included in this Environmental Commitments Record.

Comply with Uniform Relocation Assistance and Real Property Acquisition Act

Any acquisitions and compensation to property owners would comply with the Uniform Relocation Assistance and Real Property Acquisition Act, as amended. In accordance with this act, compensation is provided to eligible recipients for property acquisitions. Relocation assistance payments and counseling would be provided by the transportation agencies to persons and businesses in accordance with the act, as amended, to ensure adequate relocation. All eligible displacees would be entitled to moving expenses. All benefits and services would be provided equitably to all displacees without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. All relocation activities would be conducted by the implementing agencies in accordance with the Uniform Act, as amended. Relocation resources would be available to all displacees without discrimination

The Nonresidential Relocation Assistance Program assists businesses, farms, and nonprofit organizations in locating suitable replacement properties and reimbursement for certain costs involved in relocation. The Relocation Assistance Program would provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are instead of any moving, searching, and re-establishment

expenses. Relocation resources would be available to all displacees free of discrimination.

Coordinate with Utilities and Communications Providers

Early notification to utility service and communications providers would help to ensure that affected patrons are notified prior to any temporary loss of service.

Prepare and Implement Transportation Management Plan

As part of construction, a Transportation Management Plan would be prepared to address traffic impacts related to staged construction, lane closures, and, if applicable, detours. At a minimum, the Transportation Management Plan would detail the procedure for conducting outreach and notification to publicize planned disruptions or delays, and for the use of portable message signage. The plan would require coordination with emergency service providers.

Replace or Relocate Site Features and Landscaping Affected by the Project

Where appropriate and to the best degree possible, landscaping and related appurtenances, such as mailboxes, and other similar features, removed from private properties because of construction would be relocated, replaced, or restored in place and in-kind to address visual impacts.

Minimize Impacts from Seismic Events

To minimize potential impacts from seismic events, the project would be constructed in accordance with all applicable Caltrans standards and regulations and designed for the maximum credible earthquake. All construction activities would adhere to current engineering practices and recommendations provided by a Geotechnical Engineer/Engineering Geologist.

Minimize Soil Instability

To minimize the potential for soil instability from shrink-swell potential, soils with high shrink-swell potential would be compacted at the highest moisture content possible. In general, fill slopes should be compacted to 90 percent relative compaction and 95 percent at bridge approaches. If retaining walls are needed, support generally can be achieved within engineered fill for typical walls lower than about 15 feet high. Soil replacement, lime treatment, and post-tensioned foundations can be implemented to offset expansive soils.

Conduct Future Geotechnical Investigation

Additional subsurface exploration and laboratory testing would be conducted for project design. Once the final interchange design is complete, drilling and sampling would be conducted. The additional investigation would include the

depth at which groundwater is encountered, soil depths, and collections of bulk and relatively undisturbed soil samples for laboratory testing. As new components of the interchange are built, the liquefaction potential of the alluvial material would need to be analyzed further in a design-level geotechnical investigation to ensure the interchange maintains its low liquefaction potential.

Write a Paleontological Evaluation Report and Prepare and Implement a Paleontological Mitigation Plan, if needed

Following the recommendation of the Paleontological Identification Report written for the proposed project, a Paleontological Evaluation Report would be written and (if necessary) a Paleontological Mitigation Plan would be developed for project implementation. If the Paleontological Evaluation Report determines there could be significant impacts on paleontological resources, a Paleontological Mitigation Plan would be required prior to the start of any construction activities. The Paleontological Mitigation Plan would consist of pre-construction, construction, and post-construction mitigation. Examples of mitigation activities to be incorporated into the final Paleontological Mitigation Plan would include the following:

Pre-Construction Mitigation

Designate a Principal Paleontologist—A Principal Paleontologist would be contracted to develop a detailed mitigation plan and supervise the paleontological mitigation program.

Construction Mitigation

- Retain full-time and on-call paleontology monitors—One or more paleontology monitors would be contracted to monitor construction-related excavation. Two individuals would be contracted to be on call to assist in the salvage of large specimens or fossil concentrations.
- Make repository arrangements—The Principal Paleontologist would conduct preliminary discussions with potential repository institution(s) to determine their needs and requirements for permanent conservation.
- Conduct monitoring during qualifying excavation—A paleontology monitor would be on-site during periods in which excavation into paleontologically sensitive geologic units (e.g., the Modesto Formation) is expected. Excavations into paleontologically sensitive geologic units extending more than 5 feet below the native soil surface are recommended for monitoring.
- Salvage specimens—Salvage of potentially significant specimens discovered in situ in excavated surfaces would be conducted by the monitor in compliance with all safety regulations and with the implementation of all feasible precautions.

- Stop work if significant resources are encountered—The monitor or Principal Paleontologist would have the authority to halt or redirect excavation operations in the event of the discovery of fossils.

Post-Construction Mitigation

- Prepare fossils according to repository agreement—Any potentially significant fossils recovered during the monitoring and salvage phase would be cleaned, repaired, and hardened to the level required by the repository institution and would be donated to that institution.
- Provide copies of field records to repository institution—Copies of all supporting field records, notes, maps, geologic sections, and photographs would be submitted to the repository institution in accordance with its policies.
- Prepare final report—The Principal Paleontologist would prepare a final report of the mitigation plan and its implementation and results, and would submit it to the appropriate parties, institutions, and government agencies.

Conduct Soil Sampling and Testing for Other Hazardous Materials

A preliminary site investigation within the project limits consisting of systematic soil sampling for lead and screening level sampling for petroleum hydrocarbons and pesticides would be conducted to evaluate potential environmental impairments, and soil material management and possible disposal requirements. A bridge survey would be performed on the Mountain House Parkway Overcrossing for asbestos and lead paint.

Implement Health and Safety and Soil Management Plans

Contractors would be required to work under a health and safety plan and soil management plan. These plans would be prepared to address worker safety when working with potentially hazardous materials, including potential asbestos-containing materials, lead-based paint, soils potentially containing aerially deposited lead, pesticides, herbicides, and other construction-related materials within the project right-of-way. The plans would provide for identification of potential hazardous materials at the work site and for specific actions to avoid worker exposure.

To prevent exposure of workers and the public to contaminated soils, requirements as detailed in the Department of Toxic Substances Control Agreement would be followed. Surface soils from potentially contaminated areas would be screened and contaminated soils disposed of appropriately. Soil excavated from the surface to a depth of 1 foot can be reused within the Caltrans right-of-way if covered with at least 1 foot of clean soil or pavement structure. If soil excavated from the top 1 foot would not be reused within the Caltrans right-of-way, then the excavated soil should be either: (1) managed and disposed of as a California hazardous waste, or (2) stockpiled and

resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

If soils are to be moved from a roadway-adjacent parcel to another parcel, the City would conduct a preliminary investigation and screening for aerially deposited lead before construction to assess lead levels in the surface and near-surface soils along the project alignment. If soils contain aerially deposited lead in excess of established thresholds, soils would be disposed of in a manner compliant with the San Joaquin County Certified Unified Program Agencies regulatory requirements.

To protect workers and the public from lead exposure, pavement striping subject to construction disturbance or removal would be tested for lead-based paints prior to disturbance or removal. All aspects of the proposed project associated with removal, storage, transportation, and disposal of yellow pavement striping would be in strict accordance with appropriate regulations of the California Health and Safety Code. Disposal of the stripes would be at a Class 1 disposal facility. The responsibility for implementing this measure would be outlined in the contract between the city of Tracy and its contractors.

To prevent exposure of workers and the public to asbestos and lead, a hazardous materials survey would be conducted prior to demolition or significant renovation of any structures. If lead or asbestos is found in these structures, an abatement plan would be developed prior to removal or renovation. The abatement plan would provide for a California-certified asbestos consultant and California Department of Health Services-certified lead project designer who would prepare hazardous materials specifications for the abatement of the asbestos-containing materials and lead-containing paint. The specification would be the basis for selecting qualified contractors to perform the proposed asbestos and lead abatement work. A California-licensed asbestos abatement contractor would be retained to perform the abatement of any asbestos-containing construction materials and lead-based paint deemed potentially hazardous. Abatement of hazardous building materials would be completed prior to any work on these structures.

Implement Measures to Comply with San Joaquin Valley Air Pollution Control District Rule 9510

As required by San Joaquin Valley Air Pollution Control District Rule 9510, prepare and submit an air impact assessment to San Joaquin Valley Air Pollution Control District. The air impact assessment includes the calculation of emissions generated by the project and the emission reductions required by the provisions set forth in the rule. The air impact assessment must be submitted to San Joaquin Valley Air Pollution Control District no later than applying for final discretionary approval, and off-site mitigation fees, if applicable, must be paid to San Joaquin Valley Air Pollution Control District before issuance of the first grading/building permit, whichever comes first. Required on-site emission reductions and potential off-site emission reduction

fees (if necessary) will be calculated through the permitting process, as dictated by Rule 9510, to reduce construction-related nitrogen oxide emissions by 20 percent and particulate matter 10 micrometers or smaller exhaust emissions by 45 percent, compared with the statewide fleet average.

Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Prior to construction, high-visibility orange construction fencing and/or flagging would be installed along the perimeter of the work area next to Environmentally Sensitive Areas (e.g., wetlands, special-status species habitat, and active bird nests). Where specific buffer distances are required for sensitive biological resources (e.g., special-status species habitats and active bird nests), they would be specified under the corresponding measures identified below. The final construction plans show the locations where fencing would be installed. The plans would also define the fencing installation procedure. The fencing would be maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities would cease until the fencing is repaired or replaced. The project's special provisions package would provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within Environmentally Sensitive Areas.

Conduct Mandatory Environmental Awareness Training for Construction Personnel

Before any ground-breaking disturbance occurs, including grading, a qualified biologist would conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training would be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid effects on sensitive biological resources (e.g., wetlands, special-status species, and nesting birds) next to the work area and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist would inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence on-site, the importance of maintaining habitat, and the terms and conditions of the authorizing documents. Proof of this instruction would be submitted to resource agencies, as required.

The environmental training would also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction. General restrictions and guidelines that must be followed by construction personnel are listed below.

- Project-related vehicles would observe the posted speed limit on hard-surfaced roads and a 15 mile-per-hour speed limit on unpaved roads or access areas in the work area during travel within the project limits.
- Project-related vehicles and construction equipment would restrict off-road travel to the work area.
- Vegetation clearing and construction operations would be limited to the minimum necessary in areas of temporary access work areas and staging.
- All food-related trash would be disposed of in closed containers and removed from the work area at least once a week during the construction period. Construction personnel would not feed or otherwise attract wildlife to the designated work area.
- No pets or firearms would be allowed in the designated work area.
- To prevent possible resource damage from hazardous materials such as motor oil or gasoline, construction personnel would not service vehicles or construction equipment outside designated staging areas.
- The training would also include identifying the best management practices written into the Storm Water Pollution Prevention Plan and the rationale behind their implementation during project construction.

Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats

A qualified biologist would monitor all construction activities that involve ground disturbance (e.g., vegetation removal, grading) within or next to environmentally sensitive areas (e.g., wetlands, special-status species habitat, and active bird nests). The purpose of the monitoring is to ensure that measures identified in this Initial Study are properly implemented to avoid and minimize effects on sensitive biological resources and to ensure that the project complies with all applicable permit requirements and agency conditions of approval. The biologist would ensure that fencing around environmentally sensitive areas remains in place during construction and that no construction personnel, equipment, or runoff/sediment from the construction area enters environmentally sensitive areas.

Compensate for Loss of Wetlands

Final compensatory ratios would be determined during the permitting process. The project would compensate for permanent loss of seasonal wetland through one or more of the following mitigation options:

- Purchase compensatory credits for the affected habitat types at a United States Army Corps of Engineers-approved mitigation bank.
- Pay into the National Fish and Wildlife Foundation Sacramento District In-Lieu Fee Program.

Conduct Floristic Surveys for Summer-Blooming Special-Status Plants and Implement Protective Measures as Feasible

Before project construction, a qualified botanist would be retained to survey the biological study area in an unmowed and undiscled condition and document the presence or absence of summer-blooming special-status plants. The botanist would conduct a floristic survey that follows the California Department of Fish and Wildlife's 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. All plant species observed would be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable, generally during the blooming period. To account for special-status plant identification periods, a field survey would be conducted prior to any project construction and between the months of July and October. The botanist would photograph and map locations of all special-status plants identified during the surveys, document the location and extent of the special-status plant population on a California Natural Diversity Database Survey Form, and submit the completed Survey Form to the California Natural Diversity Database.

Wherever feasible, avoidance and minimization measures would be implemented to reduce direct impacts on special-status plants found in or next to the construction area by creating a 100-foot buffer around the plants and by installing and maintaining exclusion fencing, as described in the project best management practices. The buffer size may be reduced by a qualified biologist if site-specific conditions indicate that the hydrology where the plants are located would not be affected by construction. The proposed project may be redesigned or modified wherever feasible in order to avoid indirect or direct effects on special-status plants identified within the project construction area during the surveys. Any special-status plants in the proposed staging areas would be avoided. Where special-status plants cannot be avoided, the project would compensate for permanent impacts on special-status plants.

Mitigate for Permanent Impacts on Special-Status Plants

If complete avoidance of special-status plants is not feasible, the project may mitigate for unavoidable permanent direct effects on special-status plants through protection of the existing seed base by the collection of topsoil which would be used to reseed disturbed areas. Special-status plants may be planted or transplanted,

Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds

To the extent practicable, vegetation removal (including short annual grasses and ruderal vegetation) would occur during the non-breeding season for most migratory birds (generally between September 2 and February 14). If vegetation cannot be removed between September 2 and February 14, these areas would be surveyed as described below.

If construction activities are expected to begin during the nesting season for birds (generally February 15 through September 1), a qualified biologist would conduct nesting surveys 7 days prior to the start of construction. Surveys would include a search of all vegetation (i.e., wild oat grassland, shrubs, trees), including ruderal areas, that provide suitable nesting habitat in the biological study area. If no active nests are detected during these surveys, no additional measures are required.

If an active nest is found in the biological study area, a no-disturbance buffer would be established around the site to avoid disturbance or destruction of the nest site until a qualified biologist determines that the young have fledged and moved out of the project. The extent of these buffers would be determined by the qualified biologist and would depend on the level of noise or construction disturbance (including noise and vibration from pile driving), 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.

Conduct Preconstruction Surveys for Burrowing Owl, Establish No-Disturbance Buffers around Occupied Burrows, and Use Passive Relocation if Burrows Cannot Be Avoided

A qualified biologist will conduct a preconstruction survey for burrowing owl 14 days prior to and within 24 hours of the start of ground-disturbing activities within suitable habitat.

- If an active burrow is identified near a proposed work area and work cannot be conducted outside of the nesting season (February 1 to August 31), a qualified biologist will establish a no-disturbance buffer that extends a minimum of 250 feet around the burrow. If burrowing owls are present at the site during the non-breeding season (September 1 through January 31), a qualified biologist will establish a no-activity zone that extends a minimum of 150 feet around the burrow. Buffers may be modified based on the opinion of the biological monitor and in coordination with California Department of Fish and Wildlife taking into consideration site specific conditions (e.g., line of sight to activities, specific activities taking place).
- If burrowing owls are present within the direct disturbance area and cannot be avoided during the non-breeding season (September 1 through

January 31), passive relocation techniques (e.g., installing one-way doors at burrow entrances) will be used. Passive relocation also may be used during the breeding season (February 1 through August 31) if a qualified biologist, coordinating with California Department of Fish and Wildlife, determines through site surveillance that the burrow is not occupied by burrowing owl adults, young, or eggs. Passive relocation will be accomplished by installing one-way doors (e.g., modified dryer vents or other California Department of Fish and Wildlife-approved method). The one-way doors will be left in place for a minimum of 1 week and will be monitored daily to ensure that the owls have left the burrow. The burrow will be excavated using hand tools, and a section of flexible plastic pipe (at least 3 inches in diameter) will be inserted into the burrow tunnel during excavation to maintain an escape route for any animals that may be inside the burrow.

Preconstruction Survey for and Avoidance of American Badger and Badger Dens

- A qualified biologist would conduct a preconstruction survey, within the limits of proposed temporary and permanent impact in grassland and ruderal habitat, no more than 14 days before the beginning of ground disturbance or any activity likely to affect American badger. The biologist would conduct den searches by systematically walking transects spaced 30 to 100 feet apart through the biological study area. Transect distance will be determined on the basis of the height of vegetation such that 100 percent visual coverage of the ground disturbing area is achieved. If dens are found during the survey, the biologist would map the location of each den as well as record the size and shape of the den entrance; the presence of tracks, scat, and prey remains; and if the den was recently excavated.
- If potential American badger dens are present, their disturbance and destruction would be avoided.
- If potential American badger dens are located within the proposed work area and cannot be avoided during construction, a qualified biologist would determine if the dens are occupied or were recently occupied using remote cameras, media tracking, or methodology coordinated with California Department of Fish and Wildlife. If unoccupied, the qualified biologist would request permission from California Department of Fish and Wildlife to temporarily plug the burrow entrance with sand bags to prevent badgers from re-using them during construction, and or if necessary, to collapse these dens by hand. If occupied, the biologist would consult with California Department of Fish and Wildlife regarding best practices for encouraging the badger(s) to move to alternate dens outside the work areas, including excavation or construction of artificial dens.
- Pipes would be capped and trenches would contain exit ramps to avoid direct mortality while construction areas are active.

Identify Suitable Roosting Habitat for Bats and Implement Avoidance and Protective Measures

Trees

- To avoid and minimize impacts on maternity roosts and hibernating bat species, trees should be removed or pruned between September 1 and October 30.
- A qualified biologist (i.e., a biologist with experience with tree roosting habitats and life histories of local bats) would examine trees for suitable bat roosting habitat (e.g., large tree cavities, loose or peeling bark, basal hollows, large snags) seven to 14 days before tree removal or pruning. Trees would also be evaluated to determine if they provide suitable habitat for foliage roosting bats.
- If the biologist determines that trees to be removed or pruned provide suitable bat roosting habitat, the biologist would monitor tree removal and pruning. The biologist would make recommendations to implement measures to avoid and minimize disturbance or mortality of bats, such as conducting pruning and removal in the late afternoon or evening when it is closer to the time that bats would normally arouse, removing the tree in pieces rather than felling an entire tree, and gently shaking each tree with construction equipment and waiting several minutes before felling trees or removing limbs to allow bats time to arouse and leave the tree. The biologist would search downed vegetation for dead and injured bats. The presence of dead or injured bats that are species of special concern would be reported to California Department of Fish and Wildlife. The biologist would prepare a biological monitoring report, which would be provided to the project lead and California Department of Fish and Wildlife.

Structures

- Preconstruction roost surveys for bats would be conducted by a qualified biologist 14 days prior to structure modification. The type of preconstruction survey (i.e., emergence survey, acoustic survey etc.) would be determined by the qualified biologist in discussion with Caltrans. If bat roosts are observed, structure disturbance would be postponed until bats have relocated or exited the structure.
- If roost habitat needs to be physically altered, then bat exclusion would be considered. If possible, roost entrances would be fitted with one-way doors or other exclusionary devices that allow bats to exit but not enter, to encourage bats to relocate.
- If a maternity roost is determined, the structure with the maternity roost would be avoided and bat relocation efforts would be postponed until young have fledged.
- If roost avoidance is not feasible, depending on the species of bat present, size of the bat roost, and timing of construction activities, additional

protective measures may be necessary. Appropriate measures would be determined in coordination with the California Department of Fish and Wildlife.

Conduct Focused Surveys for Nesting Swainson's Hawk Prior to Construction and Implement Protective Measures during Construction

Focused preconstruction surveys for nesting Swainson's hawk would be conducted in the project area and in suitable habitat within a 0.5 mile radius, where accessible, around the project area. The survey methodology would follow the Swainson's Hawk Technical Advisory Committee's recommendations. A 500-foot buffer would be established around any discovered Swainson's Hawk nests. If construction cannot be conducted within the September 30th to February 1st, a biological monitor would be present during construction work within 500 feet of the identified nest.

Avoid and Minimize the Spread of Invasive Plant Species during Project Construction

The project would be responsible for avoiding and minimizing the introduction of new invasive plants and the spread of invasive plants previously documented in the biological study area. The following best management practices would be written into the construction specifications and implemented during project construction.

- Retain all excavated soil material on-site or dispose of excess soil in a permitted off-site location to prevent the spread of invasive plants to uninfested areas next to the project area.
- Use a weed-free source for project materials (e.g., straw wattles for erosion control that are weed-free or contain less than one percent weed seed).
- Prevent invasive plant contamination of project materials during transport and when stockpiling (e.g., by covering soil stockpiles with a heavy-duty, contractor-grade tarpaulin).
- Use sterile grass seed and native plant stock during revegetation.
- Restore temporarily disturbed areas to pre-project conditions or better. Revegetate or mulch disturbed soils within 30 days of completing ground-disturbing activities to reduce the likelihood of invasive plant establishment.

Detailed information about implementing these best management practices is available in the California Invasive Plant Council Publication *Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors*.

Appendix E Required Consultation and Concurrence Documentation

Bound Separately

List of Technical Studies

- Community Impact Assessment Memo
- Air Quality Report
- Noise Study Report
- Water Quality Report
- Natural Environment Study
- Historical Property Survey Report
- Historic Resource Evaluation Report
- Archaeological Survey Report
- Hazardous Waste Reports
- Initial Site Assessment
- Preliminary Site Investigation (Geophysical Survey)
- Visual Impact Assessment
- Paleontology Identification Report