Ranchos Rehabilitation Project

In Madera County from north of Avenue 15 to south of State Route 145
06-MAD-41-PM 6.3/9.2
06-0R2100/0614000058
State Clearinghouse Number 2020019068

Initial Study with Mitigated Negative Declaration/ Environmental Assessment and Section 4(f) Evaluation with Finding of No Significant Impact

Prepared by the
State of California Department of Transportation

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

May 2020

Caltrans

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06-MAD-41-PM 6.3/9.2
06-0R2100/0614000058
State Clearinghouse Number 2020019068

Rehabilitate State Route 41 from post miles 6.3 to 9.2 in Madera County

INITIAL STUDY
with Mitigated Negative Declaration/ ENVIRONMENTAL ASSESSMENT and Section 4(f) Evaluation with Finding of No Significant Impact

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C) and 49 U.S. Code 303

THE STATE OF CALIFORNIA
Department of Transportation
and
California Transportation Commission

J. Vespermann

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CEQA and NEPA Lead Agency

05-13-2020
Date

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CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

FOR

Ranchos Rehab Project

The California Department of Transportation (Caltrans) has determined that the build alternative will have no significant impact on the human environment. This Finding of No Significant Impact is based on the attached Environmental Assessment which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment.

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

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05-13-2020
Date

Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to rehabilitate State Route 41 in Madera County from post miles 6.3 to 9.2. The project will reconstruct the two-lane conventional highway, which will include widening the bridge over the Madera Canal and mainline to achieve the shoulder width standard, replacing and/or adding culverts, and raising the profile as needed.

Determination

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the project will not have a significant effect on the environment for the following reasons.

The project will have no effect on air quality, aesthetics, energy, geology and soils, paleontological resources, land use and planning, mineral resources, population and housing, public services, recreation, transportation, utilities and service systems, and wildfire.

The project will have no significant effect on agricultural and forest resources, greenhouse gas emissions, hazards and hazardous waste, hydrology and water quality, noise, a cultural resource (Madera Canal) and tribal resources.

The project will have no significantly adverse effect on biological resources (California tiger salamander and vernal pool fairy shrimp). In addition to hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, vernal pool fairy shrimp and their designated critical habitats. Also, a cultural resource (prehistoric archaeological site) because the following mitigation measures will reduce potential effects to insignificance:

- Direct impacts including permanent and temporary impacts to vernal pool fairy shrimp habitat and upland habitat and temporary aquatic habitat for the California tiger salamander will be compensated for at a 2:1 ratio.
- Indirect impacts to temporary aquatic habitat for the California tiger salamander and vernal pool fairy shrimp will be compensated at 1:1 ratio.
- Impacts to occupied burrows of burrowing owl will be replaced with artificial burrows at a ratio of one burrow collapsed to one artificial burrow constructed (1:1) where feasible.
- Adverse effects to the prehistoric site—CA-MAD 1503—will be mitigated through a Phase 3 data recovery.

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05-13-2020

Date

Date

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Chapter 1 Proposed Project

1.1 Introduction

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

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 U.S. Code 327, for more than five years, beginning July 1, 2007 and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Barack Obama on July 6, 2012 amended 23 U.S. Code 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 U.S. Code 327 (NEPA Assignment Memorandum of Understanding) with the Federal Highway Administration. The NEPA Assignment Memorandum of Understanding became effective October 1, 2012 and was renewed on December 23, 2016 for a term of five years. In summary, Caltrans continues to assume Federal Highway Administration responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes.

With NEPA Assignment, the Federal Highway Administration assigned and Caltrans assumed all of the U.S. Department of Transportation Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that the Federal Highway Administration assigned to Caltrans under the 23 U.S. Code 326 Categorical Exclusion Assignment Memorandum of Understanding, projects excluded by definition, and specific project exclusions.

Caltrans will improve a segment of State Route 41 in Madera County from north of Avenue 15 to south of State Route 145. The total length of the project is 2.9 miles. Figures 1-1 and 1-2 show the project location and vicinity maps.

The project is included in the 2019 Federal Statewide Transportation Improvement Program and is proposed for funding from the 2016 State Highway Operations and Protection Program—Roadway Rehabilitation 3R. It is also included in the Madera Transportation Commission's 2019 Federal Transportation Improvement Program.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to extend the service life of the roadway through rehabilitation to prevent future roadway closures, and to upgrade safety features where reasonable.

1.2.2 Need

Based on the 2013 Pavement Condition Survey Inventory, the asphalt concrete pavement has up to 24% Alligator A cracking and up to 2% Alligator B cracking. This type of cracking is structural and, if not repaired, typically develops into potholes and pavement disintegration. Neither crack sealing or filling can treat this type of structural failure.

Caltrans refers to longitudinal cracking in the wheel path on the roadway as Alligator A cracking; multiple interconnected cracks in the wheel path are referred to as Alligator B cracking. There is an immediate need to rehabilitate the pavement by reconstructing the structural section with a raised profile to manage flooding. The shoulders have also deteriorated, with clear signs of cracking, like the adjacent travel lanes. The shoulders need to be upgraded to meet current width standards.

1.3 Project Description

Caltrans will rehabilitate State Route 41 in Madera County from post miles 6.3 to 9.2 (see the vicinity and location maps in Figures 1-1 and 1-2). Within the limits of the project, State Route 41 is a north-south two-lane conventional highway. This section of highway is in relatively flat to rolling terrain and has outside and inside shoulder widths that vary between 2 to 8 feet. The standard width is 8 feet.

The purpose of the project is to extend the service life of the road and upgrade safety features to meet standard requirements. The project is consistent with the objectives of the Madera County Transportation Commission to maintain, repair, and rehabilitate existing and future regional transportation systems. It is consistent with the transportation and circulation policies of the Madera County General Plan.

The footprint of this rehabilitation project overlaps the footprint of a Caltrans capacity-increasing project—the Madera 41 South Expressway project (Phase 1)—slated to begin construction in fall 2022 and be completed in winter 2023. The overlap is approximately 1.3 miles at the southern portion of this project, between post miles 6.3 and 7.6. The construction of this project is scheduled to begin in spring 2022 and be completed in winter 2023.

Figure 1-1 Project Vicinity Map

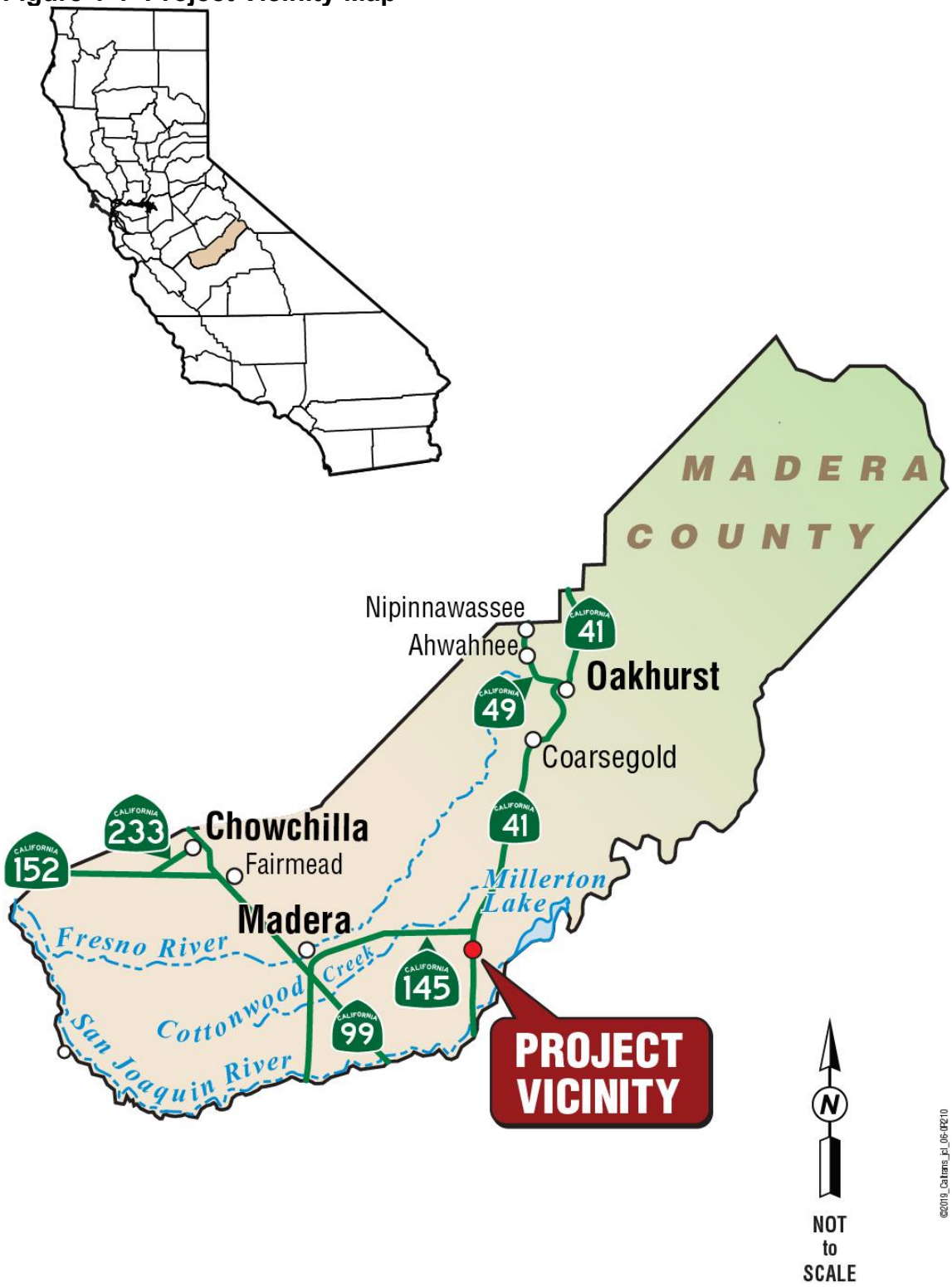
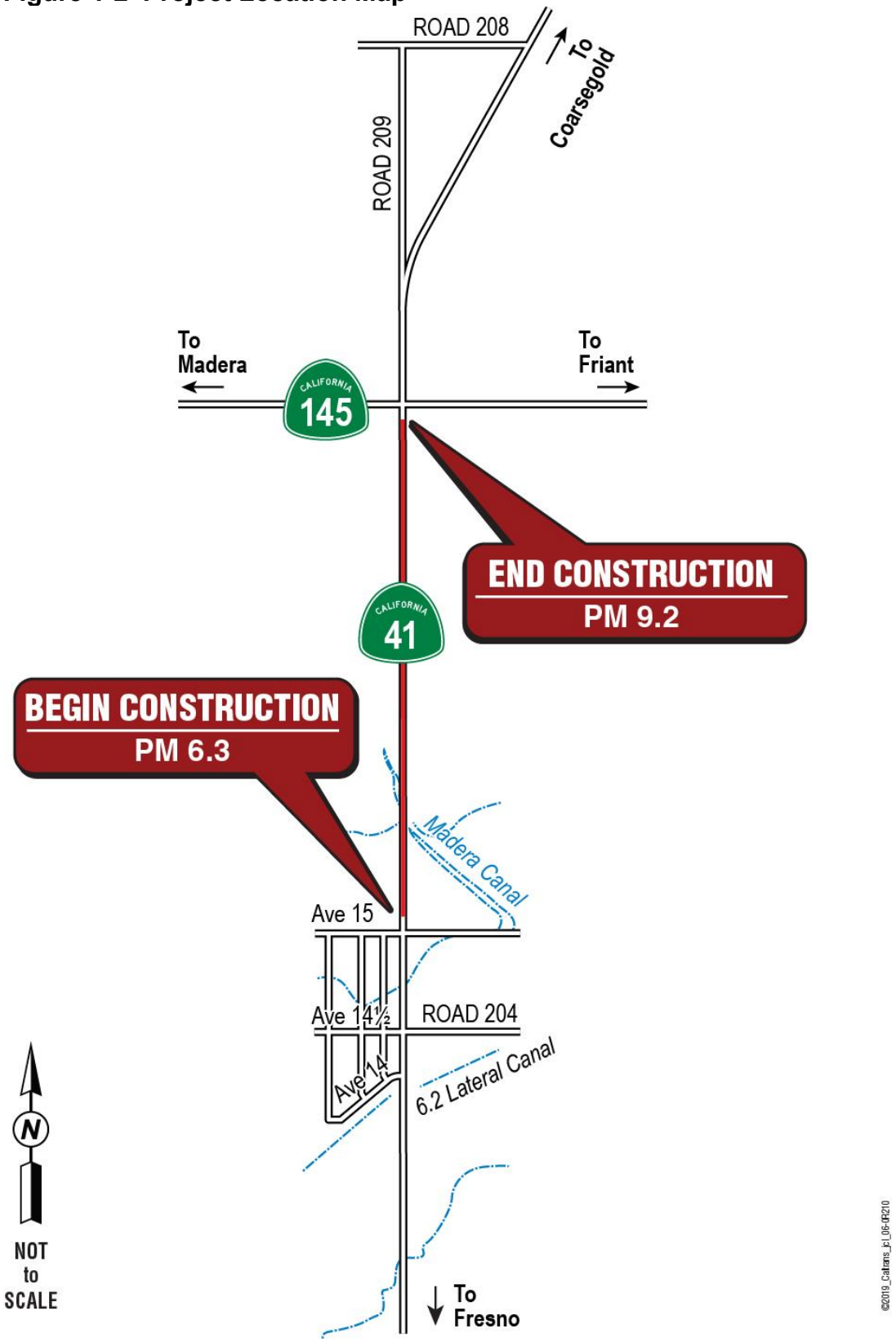


Figure 1-2 Project Location Map



1.4 Project Alternatives

The project contains a number of 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 found in Chapter 2.

1.4.1 Build Alternative

A build alternative and a no-build alternative were under consideration. The build alternative will reconstruct the two-lane conventional highway. This will include widening the bridge over the Madera Canal (also known as the Friant-Madera Canal), widening shoulders to standard, replacing and/or adding culverts, and raising the profile as needed. Preliminary design plans are shown in Appendix H.

The work consists of widening symmetrically starting at about 0.1 mile north of Avenue 15 with standard 8-foot outside shoulders, placing hot mix asphalt over the existing travel way, and installing trapezoidal side gutters with earth berms to control drainage. The side gutter must be a minimum of 6 inches deep with 4:1 side slopes. The trapezoidal side gutter width will vary depending on the centerline profile change and original ground elevation.

The Madera Canal Bridge (Bridge Number 41-0039) at the Madera Canal will be widened by 2 feet on both sides of the structure to meet the 8-foot width shoulder standard. The bridge will be widened using precast/prestressed steel reinforced concrete beams. Falsework will be erected as a temporary structure to hold and support fresh concrete, stabilize girders, and provide temporary support until the entire structure is self-supporting. The falsework will also prevent materials from entering the Madera Canal because no work is proposed in the Madera Canal. The existing guardrails next to the bridge rails will be replaced with Caltrans standard guardrails.

A 10-foot utility easement will be acquired on the west side of the highway beyond the proposed right-of-way for relocation of existing fiber optic and electrical power lines. The existing changeable message sign will be upgraded and connect to existing utility lines. Existing traffic count loops and piezo sensors within the project limits will be replaced, and Intelligent Transportation System elements will be installed outside of the clear recovery zone. These elements may include traffic monitoring stations, closed circuit television cameras, and highway advisory radio.

Raising the profile will require removal of the existing travel way and constructing two 12-foot lanes and two 8-foot shoulders at the new profile. The structural section is composed of the following layers: rubberized hot mix

asphalt, hot mix asphalt, and aggregate base. This type of flexible pavement results in a smooth and quiet ride and is expected to last 20 years.

Existing culverts will be extended, upgraded, added, and/or replaced. Extension of the culverts is required to accommodate the shoulder widening and to attain the standard clear recovery width of 20 feet. Road striping will be increased from 4 inches to 6 inches, and centerline and shoulder rumble strips will be installed. Road signs will also be relocated and upgraded to the new standard.

A 32-foot temporary detour road (two 12-foot lanes with two 4-foot shoulders) will be paved with hot mix asphalt west of State Route 41 to divert northbound and southbound traffic north of the Madera Canal to post mile 8.25. Temporary k-rail will also be placed in this section and for shoulder widening.

The project will require acquisition of new right-of-way, temporary construction easements, and utility easements. The project cost for right-of-way and construction totals an estimated $13.3 million. Construction is scheduled to begin in spring 2022 and be completed in winter 2023. About 180 working days are expected for construction, with about 60 days of daytime work and 120 nights of work planned.

1.4.2 No-Build (No-Action) Alternative

This alternative would maintain the existing facility in its present condition. The no-build alternative would not address the deteriorating pavement or manage flooding, nor would it address the non-standard shoulders and clear recovery zones. This alternative does not meet the purpose and need of the project.

1.4.3 Comparison of Alternatives

When alternatives are evaluated, the purpose and need of the project, as well as the locations where environmental impacts could occur, need to be considered.

The build alternative will satisfy the purpose of the project because it will address the pavement deterioration on the existing roadway by reconstructing the structural section. Specific sections of the road will be raised and culverts replaced and/or upgraded to manage flooding. The project will also bring shoulders up to standard and provide the standard clear recovery zone. The build alternative will result in temporary, permanent, and indirect impacts to environmental biological resources. Construction activity will be required within wetlands and waters of the U.S. and in designated critical habitats. A known archaeological site will be directly affected by the project. Although the build alternative will result in changes to existing conditions, the changes will not be substantial with incorporation of avoidance, minimization, and

mitigation measures. Chapter 2 of this environmental document provides information on the project's potential environmental impacts.

The no-build alternative would not satisfy the purpose or need of the project because it would not address the pavement deficiencies or flooding issues on this segment of State Route 41. The no-build alternative would not result in any construction or changes to existing conditions. Therefore, it would not result in any temporary, permanent, or indirect impacts to environmental resources. With the no-build alternative, the pavement will continue to deteriorate from operation and flooding resulting in increased maintenance costs and road closures.

1.5 Identification of a Preferred Alternative

After the public review and comment period, and after comparing and weighing the benefits and impacts of the build alternative and the no-build alternative, the build alternative was selected as the preferred alternative. The build alternative will satisfy the purpose of the project because it will address the pavement deterioration, correct flooding, and bring shoulders up to standard.

The no-build alternative would not satisfy the purpose or need of the project because it would not address the pavement deficiencies, flooding issues, or bring the shoulders up to standard. With the no-build alternative, the pavement will continue to deteriorate, and flooding would continue to occur resulting in increased maintenance costs and road closures.

1.6 Alternatives Considered but Eliminated from Further Discussion Prior to the Draft Initial Study/Environmental Assessment

Alternatives for offset widening to both the east and west sides of the highway were considered but eliminated from further discussion prior to the draft Initial Study/Environmental Assessment. Offset widening to either side of the highway would have greater impacts to biological resources than symmetrical widening with the preferred alternative. Widening to the east would impact 0.88 acre of wetlands and widening to the west would impact 0.80 acre of wetlands. Symmetrical widening with the preferred alternative will only impact 0.49 acre of wetlands while also providing a solution for addressing the issues of pavement deterioration and flooding.

1.7 Permits and Approvals Needed

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

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States	Concurrence on the Least Environmentally Damaging Practicable Alternative as part of NEPA/404 and Section 404 permit are expected after Final Environmental Document approval.
California Department of Fish and Wildlife	1602 Agreement for Streambed Alteration	An application for a 1602 permit will be submitted during the Plans, Specifications, and Estimates final design phase.
California Department of Fish and Wildlife	Section 2081(b) Permit for incidental take of listed species	An application for a 2081(b) permit will be submitted during the Plans, Specifications, and Estimates phase of the project.
U.S. Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species	A Biological Assessment was submitted to the U.S. Fish and Wildlife Service on July 12, 2019. A Biological Opinion will be issued prior to Phase 3 excavations for cultural resources.
Regional Water Quality Control Board	Clean Water Act Section 402—National Pollutant Discharge Elimination System Waste Discharge Permit A Storm Water Pollution Prevention Plan required by Caltrans will be prepared and is expected	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit (Order Number 99-06-DWQ National Pollutant Discharge Elimination System Permit Number CAS000003) and (2) the

Agency	Permit/Approval	Status
	to provide all the necessary temporary pollution and erosion control measures required during construction Clean Water Act Section 401 Water Quality Certification	General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (Order Number 99-08-DWQ, National Pollutant Discharge Elimination System Number CAS000002) 401 certification (permit) will be obtained prior to the start of construction.
U.S. Bureau of Reclamation	Application for authorizing transportation facilities on federal lands	The Standard Form 299 application will be submitted after the Project Approval/Environmental Document milestone is achieved.
San Joaquin Valley Air Pollution Control District	National Emissions Standards for Hazardous Air Pollutants notification	Notification will be required before demolition of any bridges or structures.
State Historic Preservation Office	Memorandum of Agreement	State Historic Preservation Office approved the Memorandum of Agreement on April 17, 2020.

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. So, there is no further discussion of these issues in this document.

- Existing and Future Land Use—The rehabilitation project will not change or impact existing land use. (Project Description)
- Consistency with State, Regional, Local Plans and Programs—The project is consistent with state, regional, and local plans.
- Coastal Zone—The project is not in the coastal zone. (Field visit, September 19, 2017)
- Wild and Scenic Rivers—There are no wild or scenic rivers in the project area. (Field visit, September 19, 2017)
- Parks and Recreational Facilities—No parks or recreational facilities will be affected by the project. There are no parks and recreation resources that meet the definition of a Section 4(f) resource within the project vicinity. (Field visit, September 19, 2017)
- Timberlands—No timberlands are present within or next to the project area. (Field visit, September 19, 2017)
- Growth—The project will rehabilitate an existing facility and does not propose to make any changes to accessibility or add capacity; therefore, the project is not expected to induce or affect growth patterns.
- Community Character and Cohesion—An established community will not be affected due to the nature of the project, so community character and cohesion will not be affected.
- Environmental Justice—The project is in a rural agricultural setting. No minority or low-income populations that will be adversely affected by the project exist in the area. Therefore, the project is not subject to the provisions of Executive Order 12898. (2010 Census Data; Field visit, September 19, 2017)
- Utilities/Emergency Services—The project is not expected to affect access to public services such as first responders because a detour will be provided so that both lanes of traffic can remain open during construction.
- Traffic and Transportation/Pedestrian and Bicycle Facilities—The project will not change the existing alignment or capacity of State Route 41, so the project will not have any permanent impacts to traffic.

- Visual/Aesthetics—The project will not result in noticeable changes to the visual environment. (Visual Impact Assessment–Update, November 1, 2018)
- Hydrology and Floodplain—This project is not in the 100-year base floodplain. It is in an area designated as Flood Zone X, Other Areas. (Floodplain Evaluation, January 9, 2019)
- Geology/Soils/Seismic/Topography—No project impacts related to geology, soils, seismicity or topography are expected. There are no major topographic or geologic features within the project area.
- Mineral Resources—The project is not in land that is classified as a Mineral Resource Zone according to the State Geologist. (California Department of Conservation Mineral Land Classification Interactive Map, July 2019).
- Paleontology—The paleontological sensitivity of the project limits is judged to be low, with little likelihood for discovery of scientifically significant fossils. (Paleontological Identification Report–Revised, July 19, 2018)
- Air Quality—The improvements for this project are exempt from the requirement that a conformity determination be made (pavement resurfacing and/or rehabilitation) according to 40 Code of Federal Regulations Section 93.126 Table 2. The project may proceed toward implementation even in the absence of a conforming transportation plan and Transportation Improvement Program (known by the acronym TIP). (Air, Noise, and Water Compliance Studies, March 14, 2019)
- Noise—The project is not a Type I project as defined in Section 23 Code of Federal Regulations Section 772 because it will neither increase the existing traffic capacity or alter the location of the highway. No further investigation is needed to proceed with the project. No sensitive receptors for noise impacts are present in the project area. (Air, Noise, and Water Compliance Studies, March 14, 2019)
- Population and Housing—The project will not impact the population or housing. It will not affect population growth because it will not build new homes or businesses nor relocate homes or businesses. The project will not increase lane capacity or extend any roads because it is only a rehabilitation project.
- Public Services (Parks and Schools)—There are no schools or parks in the immediate vicinity of the project. The nearest school is Hillside Elementary School at 800 Treasure Hills Drive, about 1 mile east of the start of the project. The nearest park, Adventure Park, is about 3 miles south of the project near Avenue 12 and State Route 41. The project will not affect access to the area because a detour will be provided so that both lanes of traffic can remain open during construction.
- Wildfire—The project is not within or near a very high fire hazard severity zone. (CAL FIRE online Fire Hazard Severity Zones Maps)

2.1 Human Environment

2.1.1 Farmland

Regulatory Setting

The National Environmental Policy Act (known as NEPA) and the Farmland Protection Policy Act (7 U.S. Code 4201-4209; 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 (known by the acronym NRCS) 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.

The California Environmental Quality Act (known as 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 land that surrounds the project area on both sides of State Route 41 is zoned Agricultural-Exclusive. The Natural Resources Conservation Service Important Farmland Mapping classifies the land as Grazing Land on which the existing vegetation is suited to the grazing of livestock. The farmland is used mostly for open-range cattle grazing (not dairy). Though most of the grazing land affected by the project was once enrolled in Williamson Act contracts, only two are actively enrolled. This conversion is due to the planned projects—the Austin Quarry and Tesoro Viejo—being part of two approved large area plans discussed below.

State Route 41 within the project limits is the dividing line between two area plans—the O'Neals Area Plan on the west and the Rio Mesa Area Plan on the east. The O'Neals Area Plan maintains cattle grazing as the main land use and confines development mostly within existing subdivisions such as the Bonadelle Ranchos Number 9 that is just southwest of the start of this project. However, the Madera Board of Supervisors approved the Austin Quarry project in September 2016. That project would construct an aggregate mining facility just west of State Route 41 and south of State Route 145. Of the 671-acre site, 348 acres will make up the quarry, plant site, entrance road and berms. The remaining land will be undisturbed and contain grasslands, natural drainage channels, and wetlands that will remain undisturbed by project activities now or at any time in the future.

Development of the Rio Mesa Plan includes its subarea, Tesoro Viejo, which is currently in construction. Tesoro Viejo was approved in 2012 and includes 5,200 residential units of high-, medium-, low-, and very low-density and mixed-use, commercial (including highway service commercial), light industrial uses, open space and parks, schools, a sewage treatment and water treatment facility, and community park/storm water retention basin.

Environmental Consequences

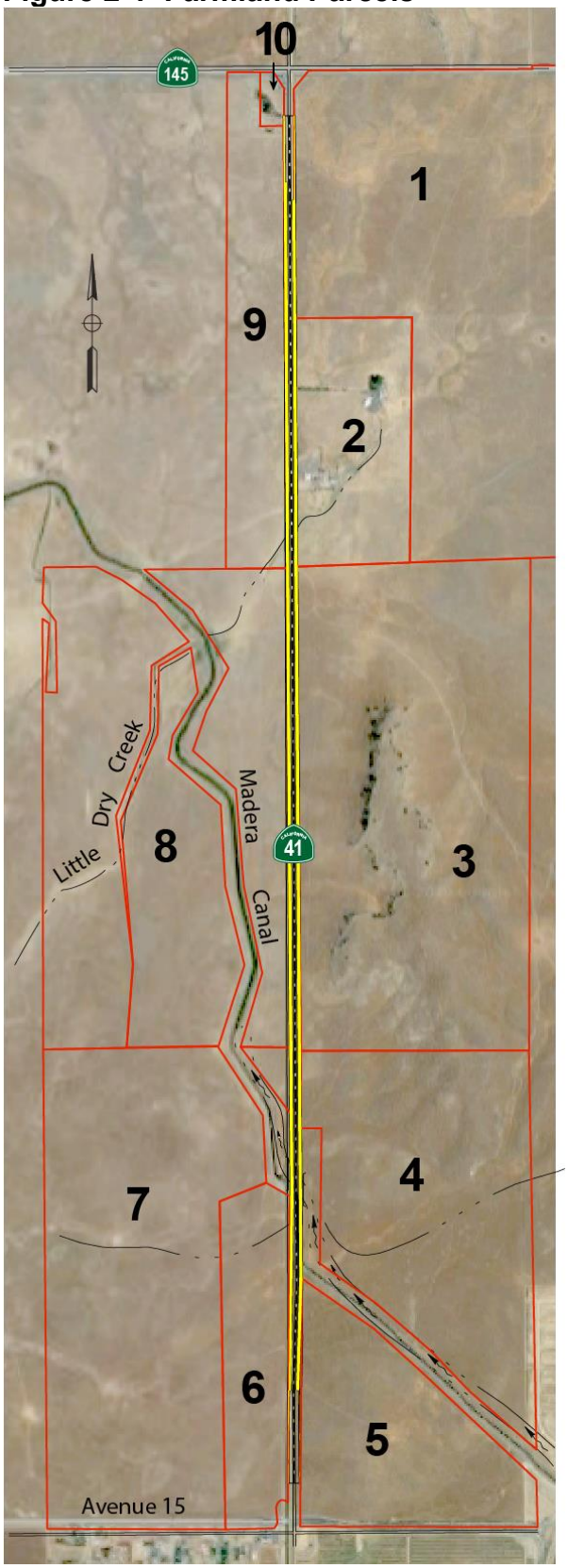
The project will convert about 18.82 acres of farmland to non-agricultural use. About 5.99 acres are for utility easements. These easements will not directly or indirectly convert this land to non-agricultural uses because the land will still be used as grazing land. Minor acquisition of land is needed from the numbered parcels shown in Figure 2-1.

Two properties—shown as parcel 6 and parcel 7—are under Williamson Act contract. They are owned by one individual on the west side of State Route 41 where right-of-way will be acquired for the project. These parcels will remain under Williamson Act contract after Caltrans acquires the needed right-of-way. A total of about 4.5 acres will be acquired from these parcels. In accordance with Government Code Section 51291(b), a letter will be sent to the Department of Conservation following the first notice procedure notifying the agency that Caltrans intends to acquire right-of-way from Williamson Act-contracted land.

NEPA and the provisions of the Farmland Protection Policy Act require that Caltrans examine the effects to farmland before taking or approving any federal action that will result in conversion of farmland. The form NRCS-CPA-106 was submitted to the local Natural Resources Conservation Service office in Madera County requesting a determination on whether the project location has farmland that is subject to the Farmland Protection Policy Act.

Results of the Farmland Conversion Impact Rating form completed for this project show that both Prime Farmland and Farmland of Statewide Importance are found within the project footprint. The Natural Resources Conservation Service determined that the project will convert about 0.4 acre of Prime Farmland and 9.7 acres of Farmland of Statewide Importance.

Figure 2-1 Farmland Parcels



The rating determines the relative value of farmland to be converted by using a formula that weights farmland classification, soil characteristics, acreage, creation of non-farmable land, availability of farm services, and other factors. Caltrans must consider measures that will minimize or mitigate farmland impacts if the rating is more than 160 points. The score for the build alternative is 47, well below the 160-point threshold required for additional protection under the Farmland Protection Policy Act. See Appendix E (NRCS-CPA-106 Form).

The conversion of farmland expected from the project is negligible in the context of the available farmland in Madera County. The 18.82 acres to be converted represent 0.0062 percent of the total farmland in the county.

Table 2-1 Farmland Conversion from the Project

Parcel Number	Total land (acres)	Acquisition (acres)	Percent Permanent Acquisition	Easement (acres)
1	566.33	0.90	0.16%	0.31
2	80.0	1.83	2.29%	0.61
3	316.37	3.62	1.1%	1.21
4	185.19	0.60	0.32%	0.20
5	103.19	0.85	0.82%	0.28
6	55.8	1.59	2.85%	0.49
7	248.56	0.55	0.22%	0.16
8	279.25	3.95	1.4%	1.19
9	75.59	3.15	4.17%	0.97

Source: Caltrans Design Division

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures will be required for farmland.

2.1.2 Relocations and Real Property Acquisition

Regulatory Setting

The Caltrans Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 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.

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

Affected Environment

Caltrans will need to acquire right-of-way from nine parcels that are directly next to State Route 41 in the project limits. The parcels are on land that is zoned Agricultural-Exclusive and contain vegetation that is suitable for livestock grazing. The land is used mostly for open-range cattle grazing (not dairy).

A small fenced pasture and corral, totaling about 0.64 acre, sit east of State Route 41 and north of Little Dry Creek within the project footprint. This area is designated as a temporary holding area for cattle that are sold to the public. Several driveways, both paved and unpaved, exist along the roadway.

Environmental Consequences

The project will acquire minor amounts of right-of-way totaling about 17.04 acres from properties that are directly next to State Route 41. Table 2-2 shows the total acreage for each parcel and the acreage of right-of-way that will be needed for the project.

Table 2-2 Right-of-Way Acquisition

Assessor Parcel Number	Total Parcel Acreage	Acreage to be Acquired
051-215-005	55.8	1.59
051-215-003	103.19	0.85
051-215-004	248.56	0.55
051-215-002	185.19	0.60
051-186-001	279.25	3.95
051-186-002	316.37	3.62
051-183-005	75.59	3.15
051-185-006	80.0	1.83
051-191-003	566.33	0.90

Source: Caltrans Design Division

The land to be acquired for the project will be from agricultural parcels that are owned by two property owners. Caltrans will attain about 1.74 acres from land surrounding the Madera Canal through easement deed with the Bureau of Reclamation. The right-of-way required from the Bureau of Reclamation is not shown in Table 2-2 because the area under the Bureau's jurisdiction has not been determined yet.

Temporary construction easements will be attained from both sides of the highway beyond the planned right-of-way line. Utility easements will be needed mostly on the west side of the highway where utility relocation will occur.

The fence, gate, and some landscaping will be removed from the fenced pasture and corral property (Assessor Parcel Number 051-185-006).

Driveways that are inside the cut and fill areas of the project will be removed and replaced in kind. Access onto adjacent properties will remain open during construction.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans will acquire necessary right-of-way for the project in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Acquisitions for construction easements are temporary, and the land will be returned to the property owner after project completion.

Property owners will be compensated for land acquisition as well as any landscaping and fencing that are removed from their properties.

2.1.3 Utilities and Emergency Services

Affected Environment

The discussion for this section is based on the right-of-way data sheet dated October 30, 2018 and the transportation management plan data sheet dated February 20, 2019.

Utilities

Overhead electrical lines owned by Pacific Gas and Electric are east of State Route 41, running along the highway beginning at about post mile 8.6. The Ponderosa Telephone Company has an underground fiber optic line on the west side of State Route 41 for the entire length of the project and a working copper line that runs on the west side of State Route 41 to just north of the Madera Canal. Both fiber optic and copper lines are used for communication purposes.

The U.S. Bureau of Reclamation owns the Madera Canal, the turnouts and access roads surrounding the canal. The Madera-Chowchilla Water and Power Authority controls the flow and use of water in the Madera Canal. Most of the water in the canal is used for agricultural irrigation.

Emergency Services

State Route 41 is a major route to the nearby foothills and the surrounding rural areas of southeastern Madera County, including the project area, for the emergency service providers discussed in this section.

Most of the project area is in the State Responsibility Area of the California Department of Forestry and Fire Protection where it is the primary emergency response agency responsible for fire suppression and prevention.

Two fire stations—Madera County Fire Station Number 7 and Madera County Fire Station Number 9—are the closest fire stations that will service the project area. The newly constructed Madera County Fire Station Number 7—

less than a mile east of the project area at Tesoro Viejo, Madera County's newest master planned community—will serve the project area and surrounding southeastern Madera County. The Madera County Fire Station Number 9 is on Avenue 11 in Rolling Hills, about 4 miles south of where the project starts.

The Central California Emergency Medical Services Agency, a division of the Fresno County Department of Public Health, dispatches ambulance services for Madera, Kings, Tulare, and Fresno counties. Two ambulance providers serve the project area: Pistoresi Ambulance and Sierra Ambulance.

The Madera County Sheriff's Department provides public protection and criminal investigations of incidences that occur within the unincorporated areas of Madera County. The closest station is in the City of Madera about 15 miles away. The California Highway Patrol has specific jurisdiction over State Route 41 and State Route 145, and all public roads in unincorporated parts of the county. While the agency's main mission is related to transportation, it also possesses full law enforcement authority and can enforce any state law anywhere in the state.

Environmental Consequences

Utilities

Initial ground disturbance may include utility relocation mostly on the west side of State Route 41. A new fiber optic system and copper line will be installed underground west of State Route 41. The existing fiber optic cables and copper cables will likely be abandoned in place. The Pacific Gas and Electric overhead line on the west side of State Route 41 between post mile 8.6 to post mile 9.0 will not be relocated. However, minor trenching could occur if the changeable message sign is relocated for connection to Pacific Gas and Electric's power line on the east side of State Route 41. There could be temporary disruption to service during relocation of utility lines during the time when the new lines get connected to existing lines.

The widening of the bridge over the Madera Canal will not require work inside the canal. There will not be any dewatering, water diversion, or shutting off of the water supply since the work will occur on the bridge deck.

Emergency Services

Traffic will be detoured onto a temporary road that will accommodate both northbound and southbound traffic from just north of the Madera Canal to just north of Little Dry Creek. However, at the beginning and end of the project from post mile 6.5 to post mile 7.2 and from post mile 8.1 to post mile 9.0, alternate one-way traffic control or reverse traffic control will be used. Impacts on response times for emergency services will be negligible with implementation of the Caltrans incident management plan described below.

Avoidance, Minimization, and/or Mitigation Measures

Utilities

All utility relocation work will be done by the utility companies. Utility users will be informed of the date and time in advance of any service disruptions.

Construction work at the Madera Canal will be coordinated with the Madera Irrigation District and the Bureau of Reclamation. No work is expected inside the canal.

Emergency Services

A detailed traffic management plan will be developed during the Plans, Specifications, and Estimates phase of the project to minimize delays and maximize safety during construction. The traffic management plan may include, but is not limited to, the following:

Release of information through brochures and mailers, press releases and media alerts, and planned lane closure notices from the Caltrans website.

Use of portable changeable message signs.

Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management plan.

The Construction Zone Enhancement Enforcement Program is a program that uses the California Highway Patrol officers during construction to improve the safety of construction crews and the motoring public. The officers may be used for traffic control and provide needed emergency response support services. Caltrans coordinates and manages road user information such as identifying the fixed changeable message signs and highway advisory radio on the state highway system that will be used during construction.

The one-way traffic control will be used only at night due to lower traffic volumes and should not cause more than a 10-minute delay. Flaggers and a pilot car will help guide traffic. Priority will be given to emergency responders to pass through to alleviate any delays.

2.1.4 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 those explained below.

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 take into account 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 Caltrans 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 U.S. Code 327).

The 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. Procedures for compliance with Public Resources Code Section 5024 are outlined in a Memorandum of Understanding between Caltrans and State Historic Preservation Officer, effective January 1, 2015. The Memorandum of Understanding is found on the Caltrans Standard Environmental Reference at http://www.dot.ca.gov/ser/vol2/5024mou_15.pdf. For most federal-aid projects

on the state highway system, compliance with the Section 106 Programmatic Agreement will satisfy the requirements of Public Resources Code Section 5024.

Affected Environment

An Historic Property Survey Report was prepared on October 18, 2019, summarizing the Archaeological Survey Report, Extended Phase 1 Report, and Archaeological Evaluation. A Historic Resources Evaluation Report was not required for the Madera Canal since a previous evaluation for the State Route 41 South Expressway project was conducted for the same resource. A Finding of Effects was prepared for project effects on historic properties.

Cultural resource studies for this project included fieldwork, such as archaeological survey and visual inspection and then an Extended Phase 1 study to determine the presence or absence of subsurface cultural deposits within the right-of-way on the west side of State Route 41. Identification efforts included records searches of the National Register of Historic Places, California Register of Historical Resources, California Points of Historical Interest, California Historical Resources Information System, National Historic Landmark, California Historical Landmarks, Caltrans Historic Bridge Inventory, Caltrans Cultural Resources Database, and the Southern San Joaquin Valley Information Center at California State University, Bakersfield. A sacred lands file records search and Native American contact list were requested from the Native American Heritage Commission. Two rounds of letters were sent to initiate consultation with tribal representatives who are known to represent heritage interests in the project area.

The Area of Potential Effects was established as the area subject to direct and indirect effects of activities during the project. The Area of Potential Effects for the build alternative includes widening the bridge over the Madera Canal (sometimes called the Friant-Madera Canal), widening the shoulders to the standard width of 8 feet, modifying/replacing culverts, and raising the road profile. A 160-foot horizontal Area of Potential Effects along the length of the project and a vertical Area of Potential Effects of 4 feet for the culvert work were established for the project.

Archaeological Resources

The Archaeological Study Area is within the transition zone between the San Joaquin Valley to the west and the lower Sierra Nevada foothills to the east. The area is characterized by relatively open, slightly rolling hills and flat terrain with scattered granitic bedrock outcrops, including those along Little Dry Creek.

There are three known prehistoric sites within the Area of Potential Effects—CA-MAD-1912, CA-MAD-1505, and CA-MAD-1503.

Site CA-MAD-1912 is a prehistoric archeological site within the project limits on the west side of State Route 41. Extended Phase 1 subsurface excavations at Site CA-MAD-1912 determined no presence of cultural materials. This site is not listed in or eligible for listing in the National Register of Historic Places. This site is considered exempt from evaluation, and no further discussion is necessary.

Site CA-MAD-1505 is a prehistoric archeological site within the project limits on the west side of State Route 41. The site consists of a single milling slick on a low outcropping boulder. Site CA-MAD-1505 was not tested due to flooding and because it is situated in a protected wetland. This site is not listed in or eligible for listing in the National Register of Historic Places. This site is considered exempt from evaluation, and no further discussion is necessary.

The third prehistoric site, CA-MAD-1503, is eligible for inclusion in the National Register of Historic Places and is bisected by State Route 41 at Little Dry Creek. A Phase 3 Data Recovery was conducted on a small portion of the site on the west side of State Route 41 in May 2009.

Site CA-MAD-1503 lies partially within the existing Caltrans right-of-way, where State Route 41 bisects it north to south. The southwestern portion of the site extends outside of the current Caltrans right-of-way, onto both the east and west sides of State Route 41 within the Area of Potential Effects. The site is eligible for the National Register of Historic Places with SHPO concurrence. A previous recovery effort of the site yielded data that contributes to the understanding of the use of obsidian hydration analysis in the interpretation of cultural chronology. This site is eligible for listing in the National Register of Historic Places under Criteria A and D. Criterion A applies because of the general importance of the area to local tribes and the presence of other important resources in the area. Criterion D applies because the site has the potential to yield information to contribute to the understanding of human prehistory.

Architectural Resources

Caltrans identified two historic properties—the Madera Canal (also known as the Friant-Madera Canal) and the Madera Canal Bridge Number 41-0039, within the Area of Potential Effects.

The Madera Canal (P-20-002308) and its contributing feature, a flume, were previously determined eligible for listing in the National Register of Historic Places. Concurrence for this determination of eligibility was provided by the State Historic Preservation Officer on March 1, 2016 for the State Route 41 South Expressway Project. The canal was found eligible under Criterion A as a component of the Central Valley Project, a historic property.

The Madera Canal is an element of the Central Valley Project, managed by the U.S. Bureau of Reclamation. The Central Valley Project is a network of dams, reservoirs, and canals providing conservation and distribution of water, flood control, and electric power generation.

The Madera Canal is a water conveyance structure that is 36 miles long. The head of the canal lies below Friant Dam on the north side of the San Joaquin River just at the end of outlet works of the dam. The canal ends at Ash Slough northeast of the community of Chowchilla. The Madera Canal intersects State Route 41 in Madera County at post mile 6.917.

The canal has a trapezoidal configuration. Twenty-nine miles of the canal are lined with concrete. This portion measures 10 feet wide at the base and 9 feet deep, with a crest width of about 24 feet. The 7-mile earthen section is much larger at 20 feet wide at the bottom and 9 feet deep.

An associated element of the Madera Canal is the flume at post mile 6.88. The chute or flume is a concrete structure that carries overflow from the east side of State Route 41 over the Madera Canal and then under the highway through two concrete pipes. The Madera Canal and flume are maintained by the Madera-Chowchilla Water and Power Authority but are under the jurisdiction of the U.S. Bureau of Reclamation. The Madera Canal and its contributing elements were determined eligible for the National Register under Criterion A as contributor/character-defining features of the Central Valley Project and the project's role in the development of agriculture in the San Joaquin Valley after 1940.

A total of 32 bridges cross the Madera Canal and are considered contributing features of the Madera Canal. The Madera Canal Bridge (Bridge Number 41 0039) crosses the Madera Canal on State Route 41 at post mile 6.917. This bridge was determined not eligible for the National Register of Historic Places due to loss of integrity.

Environmental Consequences

Two cultural resources have been determined eligible for inclusion to the National Register of Historic Places within the project Area of Potential Effects. Therefore, overall the project as a whole has an adverse effect on historic properties.

Archaeological Resources

Subsurface testing performed at site CA-MAD-1912 resulted in a negative finding for cultural materials. Extended Phase 1 testing could not be performed at site CA-MAD-1505 because of site flooding and its location within a protected wetland habitat. These sites will not be affected by the project because the actual features of the sites are outside the project area.

Subsurface testing and geoarchaeological models indicated no subsurface components that may be affected by the project. However, per guidance from the Caltrans Division of Environmental Analysis Cultural Studies Office, Environmentally Sensitive Area fencing will be put in place to make sure the features are not affected by the project. Both are exempt from evaluation for the purposes of this project. Caltrans has made a determination of a "No Historic Properties Affected" for sites CA-MAD-1912 and CA-MAD-1505.

Site CA-MAD-1503 is a prehistoric archaeological site that cannot be avoided because it is in the direct path of the ground-disturbing work. Caltrans has determined that the project will have an adverse effect on this prehistoric site, and a Finding of Effect letter was submitted to the State Historic Preservation Officer. Because the site is eligible for inclusion on the National Register of Historic Places, especially since it is eligible for data potential, any ground disturbance within the site will constitute an adverse effect. The adverse effect is due to the ground-disturbing activities such as utility trenching and culvert work that will affect the portion of the site that makes it eligible. A Memorandum of Agreement was prepared and executed on April 17, 2020 and identifies avoidance, minimization, and mitigation measures. The Memorandum of Agreement is included in Appendix G. The Memorandum of Agreement was not in the draft environmental document because it was executed after the draft environmental document was circulated.

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

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. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, which, pursuant to Public Resources Code Section 5097.98, will then notify the Most Likely Descendent. At this time, the person who discovered the remains will contact the District 6 archaeologist so that he or she may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

Architectural Resources

The Madera Canal along with its associated features is a contributing element to the Central Valley Project, a historic property. Caltrans, in applying the criteria of adverse effect, proposed that a Finding of No Adverse Effect to the historic property with nonstandard conditions as appropriate for the project's effects on the Madera Canal and its contributing element. On January 24, 2019, Caltrans received a Finding of Effects concurrence letter from the State Historic Preservation Officer, pursuant to the Section 106 Programmatic

Agreement Stipulation X.B.2(a) and 36 Code of Federal Regulations 800.5(c). The January 24, 2019 concurrence letter from the State Historic Preservation Officer is included in Appendix F. This finding was not in the draft environmental document because it was issued after the draft environmental document was circulated.

The bridge will be widened using precast/prestressed steel-reinforced concrete beams. Falsework will be erected as a temporary structure to hold and support fresh concrete, stabilize girders, and provide temporary support until the entire structure is self-supporting. The falsework will also prevent materials from entering the Madera Canal since no work is proposed in the Madera Canal.

The project has a “no adverse effect with nonstandard conditions” finding for the historic property—the Madera Canal and its associated features. The extension of the dual-piped culvert will have a *de minimis* impact to associated features of the Madera Canal. The features include the culvert structure and the flume that crosses over the Madera Canal. Impacts cannot be avoided using an Environmentally Sensitive Area fence; therefore, monitoring will be required for work near the Madera Canal to prevent any adverse impacts to the historic property.

Tribal Consultation

Native American consultation for the project was initiated on September 20, 2016. An invitation to consult for the project was sent to 21 tribal representatives. The letter provided a project general description and listed known archaeological resources situated either within or nearby the project area. The correspondence included an invitation to consult with Caltrans under Public Resources Code 21080.3.1 and Chapter 532 of Statute 2014 and Section 106.

On September 28, 2018, Mr. Robert Pennell, Cultural Resources Director for Table Mountain Rancheria, responded requesting further consultation, as did Mary Motola, Tribal Historic Preservation Officer for the Picayune Rancheria of Chukchansi Indians, in a letter dated October 19, 2016. Ms. Motola expressed concerns about the large area of ground disturbance due to the project and the proximity to known archaeological and ethnographic sites in the area. To date, no other comments have been received.

In March 2019, an Extended Phase 1 investigation was conducted by Caltrans archaeologists to provide a more detailed examination of the distribution of cultural features and artifacts at two archaeological sites, specifically, to establish the sites’ eastern boundary relative to the project’s Area of Potential Effects. Native American consultation for this effort included coordinating with three local tribal groups, who provided monitors for field work activities. No cultural materials were identified during the excavations. On May 24, 2019, Mandy Macias, Caltrans District 6 Native American

Coordinator, sent a letter via email updating tribal representatives on the results of the investigation.

On August 30, 2019, an email was sent out to tribal representatives informing them of the eligibility determination under Criterion D for site CA-MAD-1503. In the email, Caltrans requested that the tribal representatives provide their input on the eligibility of the site, especially under any criteria other than Criterion D. No response was received regarding the email. Caltrans followed up by emailing a reminder to the same representatives on September 16, 2019. No response was received from any of the tribal representatives.

On October 15, 2019, an update email was sent to tribal members—H. Airey of Picayune Rancheria of Chukchansi Indians, Ron W. Goode of the North Fork Mono Tribe, Bob Pennell and Sara Barnett of Table Mountain Rancheria, and Christina McDonald of North Fork Rancheria. The email notified the tribes of the decision to evaluate site CA-MAD-1503 in its entirety instead of the previously proposed individual location approach.

Ongoing consultation efforts will include further coordination with tribal members for construction monitoring.

Section 4(f) Resources

Site CA-MAD-1503 is not a Section 4(f) resource because it is only eligible for the National Register of Historic Places because of its data potential, its general importance of the area to local tribes and the presence of other important resources in the area, and its artistic value of a feature that is not in the project area and has minimal value for preservation in place.

One historic resource, the Madera Canal (P-20-002308) and its associated feature, the flume at post mile 6.88, are Section 4(f) protected resources. It has been determined that the modifications to this historic resource and its associated feature constitute a *de minimis* “use” so they are subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S. Code 303. See Appendix A, Section 4(f) for a detailed discussion of this determination.

Avoidance, Minimization, and/or Mitigation Measures

Archaeological Resources

A Memorandum of Agreement was obtained on April 17, 2020 with consultation with Native American representatives and the State Historic Preservation Officer to implement appropriate mitigation measures for site CA-MAD-1503. The Memorandum of Agreement requires that an Archaeological Treatment Plan be implemented for the project. The Memorandum of Agreement is included in Appendix G. The Memorandum of Agreement was executed after the draft environmental document was circulated and therefore was not in that document. Caltrans will implement the

following measures to mitigate the project's impacts to the prehistoric site, CA-MAD-1503:

Adverse effects to the resource will be mitigated through a Phase 3 data recovery. Procedures for fieldwork, laboratory analysis, and reporting, as well as procedures for archaeological monitoring, will be detailed in the Archaeological Treatment Plan.

Phase 3 data recovery will be conducted within the project limits at construction, prior to any ground-disturbing activities to prevent the loss of cultural data. The data recovery may include, but is not limited to, the following activities:

- Surface investigation, shovel test pits, core sampling, block excavation, trenching, and remote sensing.
- Material recordation, recovery, collection and analysis.
- All recovered cultural materials curated at an appropriate curation facility.
- Public distribution and/or outreach of cultural information obtained from analysis of data recovery efforts.
- Preparation of an ethnographic study for use as a reference in future transportation projects. This was added after the draft environmental document was circulated.
- Environmentally Sensitive Area fencing will be installed to protect site CA-MAD-1503 as well as sites CA-MAD-1912 and CA-MAD-1505, during construction.
- Native American monitors will also be present, especially during Phase 3 data recovery.
- Phase 3 excavations require a biological opinion prior to the start of work. The biological opinion will permit this type of excavation work in federally protected species habitats and/or designated critical habitats.

Architectural Resources

The following measures are required to avoid and minimize adverse impacts to the Madera Canal and its associated feature:

Work at the Madera Canal Bridge will be performed on top of the bridge deck. Falsework will be erected as a temporary structure to hold and support fresh concrete, stabilize girders, and provide temporary support until the entire structure is self-supporting. The falsework will prevent materials from entering the Madera Canal.

Work at the Madera Canal Bridge and the flume will occur during the dry season when there is no water in the canal; this will avoid any impacts to the water conveyance function of the canal.

Caltrans will ensure that a Caltrans principal architectural historian will review construction plans at the 60 percent and 95 percent constructability phases of the project.

Caltrans will include monitoring of construction activities at the Madera Canal and flume.

2.2 Physical Environment

2.2.1 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States from any point source (a point source is any discrete conveyance such as a pipe or a man-made ditch) unlawful unless the discharge complies with a National Pollutant Discharge Elimination System permit. This act and its amendments are known today as the Clean Water Act. Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme. The following are important Clean Water Act sections:

Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/ construction and municipal separate storm sewer systems (known as MS4s).

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

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

The U.S. 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 U.S. Army Corps of Engineers’ Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers’ decision to approve is based on compliance with U.S. 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 were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The guidelines state that the U.S. 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 U.S. and not have any other significant adverse environmental consequences. According to the guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order.

The guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. (The U.S. Environmental Protection Agency defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.”) In addition, every permit from the U.S. 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 for the project is included in the Wetlands and Other Waters Section.

State Requirements: Porter-Cologne Water Quality Control Act

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or

surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Also, it prohibits discharges of "waste" as defined, and this definition is broader than the Clean Water Act definition of "pollutant." 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.

The 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 regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area 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 those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use.

In addition, the 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 Pollutant 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.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems (MS4s)

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 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 State Water Resources Control Board has identified Caltrans as an owner/operator of a municipal separate storm sewer systems under federal regulations. The Caltrans municipal separate storm sewer systems permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The 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.

The Caltrans municipal separate storm sewer systems Permit, Order Number 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order Number 2014-0006-EXEC (effective January 17, 2014), Order Number 2014-0077-DWQ (effective May 20, 2014) and Order Number 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);

2. Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges; and

3. The Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices, to the maximum extent practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Statewide Storm Water Management Plan assigns responsibilities within the Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The plan describes the minimum procedures and practices Caltrans

uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices. The project will follow the guidelines and procedures outlined in the latest Statewide Storm Water Management Plan to address storm water runoff.

Construction General Permit

Construction General Permit, Order Number 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order Number 2010-0014-DWQ (effective February 14, 2011) and Order Number 2012-0006-DWQ (effective on July 17, 2012): The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. 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 Storm Water Pollution Prevention Plans; implement sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

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

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will comply with state water quality standards.

The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers.

The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and are required before the U.S. Army Corps of Engineers issues a 404 permit.

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

Affected Environment

A water quality assessment was completed on March 14, 2019.

This project is within the San Joaquin Valley Floor Hydrologic unit and within Hydrologic sub area #545.30. Friant-Madera Canal runs within the project limits. The Friant-Madera Canal begins at Millerton Lake, a reservoir on the San Joaquin River north of Fresno. The canal runs north along the eastern edge of the San Joaquin Valley, ending at the Chowchilla River, east of Chowchilla. The Friant-Madera Canal has a capacity of 1,000 cubic feet per second, gradually decreasing to 625 cubic feet per second at its end. It was completed in 1945. The headworks of the canal were rebuilt in 1965 to deliver water at 1,250 cubic feet per second.

There are no water bodies within the project limits that are listed on the 303(d) list as sensitive water bodies. No drinking water reservoirs and/or recharge facilities have been identified within the project limits. There are no known Regional Water Quality Control Board special requirements or concerns with this project. No Total Maximum Daily Loads have been identified with any water bodies in the area. This project does not lie within an urban Municipal Separate Storm Sewer Systems area.

The project soil erosion risk level was determined using the Individual Method–Environmental Protection Agency Rainfall Erosion Calculator and Individual Data per Caltrans Project Risk Level Determination Guidance, July 2010. The project risk level has been determined to be Risk Level I, the lowest risk, for erosion and transporting sediment to receiving waters.

Environmental Consequences

This is a rehabilitation project that involves minor ground disturbance and has the potential of impacting short-term water quality in the area. No long-term water quality impacts are expected.

There will be a net new impervious surface area of 5 acres after completion of construction of the project. The existing highway through this area is a two-

lane road with paved shoulders. Most stormwater runoff sheet-flows off the roadway and into side storage ditches or adjacent farmland or rangeland. Side ditches will be constructed to store stormwater runoff.

Total Disturbed Soil Area for the project is about 42 acres. The total Disturbed Soil Area was calculated by adding the area of disturbed soil from right-of-way line to right-of-way line, including those areas required to repair local roads.

Caltrans Standard Specification Section 13.1 requires the contractor to address all potential water quality impacts that may occur during construction. Potential impacts such as erosion, accidental spills of hazardous materials, and disruption of natural drainage patterns must be eliminated or minimized to the maximum extent practicable during the design and construction phases of the project by incorporating the appropriate permanent and temporary Best Management Practices into the project.

Since the project is expected to disturb more than 1 acre of soil, the following is required:

- A Notification of Intent (NOI) will be submitted to the appropriate Regional Water Quality Control Board at least 30 days prior to the start of construction.
- A Stormwater Pollution Prevention Plan will be prepared and implemented during construction to the satisfaction of the Resident Engineer.
- A Notice of Termination (NOT) will be submitted to the Regional Board upon completion of construction and site stabilization. A project will be considered complete when the criteria for final stabilization in the Construction General Permit are met.

Avoidance, Minimization, and/or Mitigation Measures

To mitigate against short-term construction and long-term operation and maintenance water quality impacts associated with the implementation of the project, the following avoidance and minimization measures will be incorporated into the appropriate project phases and implemented in consultation with regulatory agencies:

- The project will comply with the provisions of the Caltrans statewide National Pollutant Discharge Elimination System Permit (Order 2012-0011-DWQ), which became effective July 1, 2013, and if applicable, the Construction General Permit (Order 2009-0009-DWQ).
- Before any ground-disturbing activities, the contractor will be required to prepare a Storm Water Pollution Prevention Plan (per the Construction General Permit Order 2009-0009-DWQ) that includes erosion-control measures and construction waste containment measures so that waters of

the State are protected during and after project construction. The project Storm Water Pollution Prevention Plan will be continuously updated to adapt to changing site conditions during the construction phase. The following temporary construction site best management practices are expected:

  - Fiber rolls and/or silt fence for perimeter control.
  - Water that has been in contact with wet concrete will not be discharged onto land until it has been tested and treated (if required).
  - Any discharge to receiving waters will require a permit from the Central Valley Regional Water Quality Control Board.

- Cast-in-place concrete structures will have enough time to cure prior to the rainy season.
- Concrete treated permeable base will not be used as a permeable material for underdrain systems that discharge to waterways.
- The project will incorporate pollution prevention and design measures consistent with the 2015 Caltrans Stormwater Management Plan to meet water quality objectives. This plan has been revised to comply with the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System Permit (Order 2012-0011-DWQ). In addition to the Best Management Practices already included, the following permanent stormwater treatment Best Management Practices will be considered where feasible:
  - Energy dissipation devices such as rock slope protection or check dams
  - Bioengineered stream bank stabilization methods such as willow wattles or brush layering
- Environmentally Sensitive Areas will be designated and clearly delineated on the contract plans during the design phase to avoid potential discharges and unauthorized disturbances to the creeks, streams, channels and protected riparian areas.

By incorporating proper and accepted engineering practices and Best Management Practices, the project will not result in significant impacts to water quality during construction or its operation.

2.2.2 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.

The main federal laws regulating hazardous wastes and 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 cleanup 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 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement 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 are vital if it is found, disturbed, or generated during project construction.

Affected Environment

The discussion is based on the July 2, 2018 Initial Site Assessment and the May 13, 2019 Preliminary Site Investigation prepared for the project.

The hazardous waste evaluation included review of aerial mapping and the Caltrans Photolog, which indicated the project area to be mostly rural. The Solid Waste Information System database, Department of Resources Recycling and Recovery and the following five California Environmental Protection Agency Data Resources, also known as the "Cortese List," were reviewed:

- EnviroStor database, list of Hazardous Waste and Substances sites, Department of Toxic Substances Control
- Geotracker database, list of Leaking Underground Storage Tank sites, State Water Resources Control Board
- Sites identified with waste constituents above hazardous waste levels outside the Waste Management Unit, State Water Resources Control Board
- List of Cease and Desist Orders and Cleanup and Abatement Orders, State Water Resources Control Board
- List of hazardous waste facilities subject to corrective action, Department of Toxic Substances Control

The databases indicated no presence of land uses or environmental conditions that may be of concern in the project area. The project will not affect the gas station at the southwest corner of State Route 41 and Avenue 15.

Aerially Deposited Lead

A previous study conducted by IT Corporation on August 16, 2000 for State Route 41 between post miles 3.1 and 9.3 indicated elevated levels of soluble lead in certain areas along this stretch of State Route 41.

Asbestos-Containing Materials, Lead-Based Paint, and Treated Wood Waste

A Preliminary Site Investigation was conducted on April 16, 2019 to determine if asbestos-containing materials and/or lead-based paint exist on the Friant-Madera Canal Bridge prior to modification or demolition. Eight bulk samples representing three different suspect asbestos-containing materials, such as concrete, asphalt, and joint fill material, were collected. Each sample was analyzed for friability (the condition of being friable or crumbly). Asbestos was not detected in samples of suspect materials collected during the survey. Painted surfaces were not observed at the bridge structure. Therefore, no paint samples were collected.

Yellow and/or white pavement striping, paint and/or markings will be disturbed during construction activities. Also, treated wood waste will be generated by the removal of the existing metal beam guardrail and sign posts.

Environmental Consequences

Aerially Deposited Lead

Aerially deposited lead from the historical use of leaded gasoline exists along roadways throughout California. As a result, elevated concentrations of lead may be present along the state highway system right-of-way within the limits of the project alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, Aerially Deposited Lead-Contaminated Soil Agreement between Caltrans and the California Department of Toxic Substances Control. This Aerially Deposited Lead-Contaminated Soil Agreement allows such soils to be safely reused within the project limits as long as all requirements of the agreement are met.

Lead levels in soils in certain areas along the length of the project exceed hazardous waste thresholds. About 18,000 cubic yards of excess soil will be generated by the project that may contain elevated concentrations of aerially deposited lead. Ground-disturbing activities during construction may expose workers and/or the public to lead.

Asbestos-Containing Materials, Lead-Based Paint, and Treated Wood Waste

Demolition and/or renovation work will impact the Madera Canal Bridge. The Cal/OSHA asbestos standard does not apply for construction activities because no asbestos was detected in the samples collected. In addition, debris will not be considered a California hazardous waste based on asbestos content. Lead-based paint was not observed on the bridge; therefore, paint samples were not collected.

Yellow and white pavement striping, paint and markings can contain elevated levels of lead and chromium. The potential exposure could pose a risk to human health and the environment, if not properly handled and disposed of.

Treated wood waste will be generated from the removal of the metal beam guardrail and sign posts. The wooden posts that support the guardrail and signs are typically treated with a chemical preservative. The preservative can include one or more of the following: arsenic, chromium, copper, pentachlorophenol, or creosote. When the treated wood has reached the end of its usefulness, it is considered treated wood waste. The chemicals it contains can contaminate surface water and groundwater, posing a risk to human health and the environment, if not properly handled and disposed.

Avoidance, Minimization, and/or Mitigation Measures

Aerially Deposited Lead

The soil may require special handling and Class I disposal, or the soil could be reused within the project limits per the agreement if all requirements are met. The applicable Standard Special Provision and/or Non-Standard Special Provision addressing proper handling and disposal of soil will be provided during the Plans, Specifications, and Estimates phase and included in the construction contract.

Asbestos-Containing Materials, Lead-Based Paint, and Treated Wood Waste

The Asbestos National Emission Standards for Hazardous Air Pollutants regulation, 40 Code of Federal Regulations, Subpart M, Section 61.145, requires written notification of demolition or renovation operations. A written notification to the San Joaquin Valley Unified Air Pollution Control District is required no less than 14 days prior to demolition activities whether asbestos is present or not.

Applicable Standard Special Provisions and/or Non-Standard Special Provisions for proper handling and disposal of pavement striping, paint, or markings, and treated wood waste will be provided during the Plans, Specifications, and Estimates phase and included in the construction contract.

2.3 Biological Environment

2.3.1 Natural Communities

Natural communities generally consist of unaltered landscapes dominated by native vegetation. These communities support a diversity of wildlife species, including special-status species.

Regulatory Setting

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in the Threatened and Endangered Species section 2.3.5. Wetlands and other waters are also discussed in section 2.3.2.

Affected Environment

This section focuses on the issues covered in the Natural Environment Study prepared for the project in October 2019 and was revised in May 2020.

The action area and the total area studied consisted of a 172.28-acre area. It is defined as the area that may be directly, indirectly, temporarily, or permanently affected by construction and construction-related activities in addition to a buffer to evaluate on-site habitat conditions. It includes the area between Avenue 15 and State Route 145. The area consists of non-native grassland mixed with vernal pools, seasonal wetlands, seasonal wetland swales, ephemeral streams, and ephemeral stream wetlands. The Madera Canal bisects the project in the southern portion of the project area. The non-native grassland is cattle-grazed on both sides of State Route 41. Firebreaks are disked annually to prevent wildfires, which can be common along this stretch of highway.

The project footprint is the area that will be directly affected by construction of the project and includes areas of permanent and temporary impacts. The project footprint area is approximately 33.98 acres and consists of the existing and proposed right-of-way, as well as a new utility easement including temporary construction easements.

The project's topography is relatively flat to rolling with the elevation ranging from 425 feet to 460 feet. The rolling grassland has topographic depressions and swales that carry surface water runoff from east to west. To the east is the Little Table Mountain range, which has various peaks ranging in elevation from 560 feet to 831 feet. The topography generally slopes to the south toward commercial and residential development.

There are two natural communities of concern within the action area—northern claypan vernal pools and northern hardpan vernal pools.

Northern Claypan Vernal Pools

Northern claypan vernal pools are formed on impermeable surfaces created by an accumulation of clay particles. These pools tend to be composed of alluvial or granitic soils found on basin landforms within central portions of the Central Valley. Claypan soils have a thickness varying from 4 to 24 inches that restricts downward movement of water resulting in a seasonal pool formation during the winter months.

There are five soils present within the action area that have a clay component and are derived largely from granitic rock. These include Hildreth sandy clay, Raynor clay, Corning gravelly loam, Porterville clay, and the Redding-Raynor complex. The Redding-Raynor complex soils contain a claypan surface layer and a hardpan subsoil layer.

There are also some areas where claypan soils overlap with hardpan soils, so the survey results for vernal pools include both soil types. A total of 88 vernal pools, totaling about 1.78 acres, were delineated within the action area.

Northern Hardpan Vernal Pools

The action area contains northern hardpan vernal pools, which vary in size and are typically found in the lower portions of the Great Central Valley floor. Soils that make up the base of these pools are cemented with silica and iron, creating a dense soil layer that prevents the penetration of roots and water to deeper depths. Each vernal pool type supports its own community of endemic vernal pool plants and organisms, uniquely influenced by the composition and characteristics of the vernal pool.

The soil survey for the Madera area has mapped Corning gravelly loam, Redding-Raynor Complex, Redding gravelly loam, and Redding gravelly sandy loam soils within the action area.

As noted above, some areas of claypan soils overlap with hardpan soils, so the survey results for vernal pools include both soil types. A total of 88 vernal pools, totaling about 1.78 acres, were delineated within the action area.

Environmental Consequences

Direct impacts to northern claypan and northern hardpan vernal pools will occur through soil disturbance due to construction activities, such as clearing, grubbing, and grading, as well as the placement of fill material. The removal of vernal pools and surrounding habitat will also result in direct impacts to plant and wildlife species that depend on this natural community for food, shelter, and reproduction.

Temporary direct impacts that may occur during construction include soil disturbance associated with utility relocation, construction staging areas, stockpile placement, vehicular and pedestrian traffic, and installation of temporary silt fencing.

Indirect impacts to the vernal pools and surrounding habitat that are partially removed due to construction activities may include a reduction in nutrients and water-holding capacity, which will affect plant and wildlife species that occupy vernal pools. Construction activities may also potentially cause the introduction or spread of invasive species in the action area.

The project will result in permanent and temporary impacts to vernal pools, some of which will be classified as northern hardpan vernal pools or northern claypan vernal pools. Direct impacts total 0.965 acre and no indirect impacts are anticipated.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to protect northern claypan vernal pools and northern hardpan vernal pools in the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources.
2. Temporary silt fencing will be installed within the project footprint and delineated as “Environmentally Sensitive Areas” to protect natural communities of concern next to the project footprint from construction-related disturbance. Installation will be completed after coordination with California Department of Fish and Wildlife. The fencing will be identified in the Construction Plans and Specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction. The proposed fence will be made of a material that a California tiger Salamander cannot climb.
3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.
4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing temporary construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat.

8. Best Management Practices specifically developed for the project will be followed by the contractor. These may include:
    - Installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat.
    - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be reestablished with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.

Compensatory mitigation for all unavoidable permanent impacts to vernal pools will be completed to ensure there is no net loss of these hydrologic resources. The specific mitigation ratios will be determined prior to the start of construction, but a minimum 1:1 compensation ratio would be used. Though the method has not been determined at this time, it could include any of the following: creation, restoration, preservation, or credit purchase at an approved conservation bank.

2.3.2 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 U.S. Code 1344), is the main 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 U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce.

The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark, in the absence of adjacent wetlands. When adjacent wetlands are present, the 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 U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

The U.S. 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 U.S. Army Corps of Engineer's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. 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 were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a "least environmentally damaging practicable alternative" to the discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (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 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 mainly 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 1600-1607 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 the California Department of Fish and Wildlife before beginning construction. If the 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.

The 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 U.S. 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 that may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. See the Water Quality section for more details.

Affected Environment

A Natural Environment Study was completed for the project in October 2019.and was revised in May 2020. Delineation of wetlands and other waters was conducted in the action area plus a 100-foot buffer in April, May, June, and October 2018. A wetland delineation report, dated March 21, 2019, was submitted to the U.S. Army Corps of Engineers on April 3, 2019 for an approved jurisdictional determination.

A site visit was conducted on June 14, 2019 with the U.S. Army Corps of Engineers, and it was determined that a preliminary jurisdictional determination was suitable for the project. Caltrans submitted a revised report package to the U.S. Army Corps of Engineers on July 19, 2019. Caltrans received the preliminary jurisdictional determination from the U.S. Army Corps of Engineers in a letter dated November 20, 2019, concurring with Caltrans' aquatic resources delineation for the survey area as potential jurisdictional aquatic resources (waters of the U.S.) regulated under Section 404 of the Clean Water Act.

The project area is within the Little Dry Creek watershed (Hydrologic Unit Code 180400010202) in the larger Middle Cottonwood Creek watershed

(Hydrologic Unit Code 1804000102). The Madera Canal crosses through the southern portion of the action area near post mile 7.0.

Three ephemeral streams run through the action area; two of these cross State Route 41 and are also associated with ephemeral stream wetlands. Three roadside ditches and one concrete flume carry surface water through culverts below the highway or associated driveways and provide connectivity between regulated features in above-average rainfall years.

Wetlands and other waters were delineated, and the following features are considered jurisdictional within the action area: one canal (Madera Canal), 13 culverts, 4 ditches, 3 ephemeral streams, 2 ephemeral stream wetlands, 32 seasonal wetlands, 27 seasonal wetland swales, and 88 vernal pools.

Madera Canal

The Madera Canal is an engineered and concrete-lined channel that crosses through the southern portion of the action area, north of Avenue 15. There is intermittent water flow that fluctuates annually. The Madera Canal originates at Millerton Lake on the San Joaquin River and ends at the San Joaquin River by way of the Eastside Bypass. Water from the canal supplies irrigation water to agricultural communities in the San Joaquin Valley.

Culverts and Ditches

The culverts in the action area carry road runoff and overland flow under State Route 41 from east to west. There are 13 jurisdictional culverts within the action area. These culverts exhibit indicators of hydrology but lack hydric vegetation and provide connectivity between jurisdictional features on both sides of State Route 41.

Four jurisdictional ditches lie within the action area. They contain surface runoff from State Route 41 and/or adjacent properties and convey water to culverts within the existing right-of-way. Two ditches have steep banks, one ditch has gentle slopes, and one ditch is a concrete flume that crosses over the Madera Canal; all four exhibit an ordinary highwater mark.

Ephemeral Streams/Ephemeral Stream Wetlands

An ephemeral stream is a stream that does not flow all year but flows during periods of rainfall. Two ephemeral streams and one potential ephemeral stream are within the action area. Little Dry Creek and a tributary to Little Dry Creek are more prominent features that exhibit flow briefly during and following rainfall. The ephemeral stream habitat associated with these two features located west of State Route 41 are considered ephemeral stream wetlands. Little Dry Creek eventually flows into the San Joaquin River through other creeks and canals. One smaller feature delineated as a potential ephemeral stream is east of State Route 41 and appears to end within a

vernal pool. In years of above-average rainfall, flow may reach the Madera Canal via a culvert under State Route 41.

Seasonal Wetlands

Seasonal wetlands are depressions in low-lying topographical areas that become wet due to the accumulation of surface water runoff and direct rainfall. These features tend to be inundated for relatively short periods of time. Within the action area are 13 seasonal wetlands west of State Route 41 and 15 seasonal wetlands east of State Route 41. Four features delineated as potential seasonal wetlands are east of State Route 41.

Seasonal Wetland Swales

Seasonal wetland swales are linear wetland features that do not exhibit an ordinary high-water mark. These features are typically inundated for short periods of time both during and immediately after rains but can maintain saturated soils into the growing season. Within the action area are 12 seasonal wetland swales west of State Route 41 and 8 seasonal wetland swales east of State Route 41. Seven features delineated as potential seasonal wetland swales are east of State Route 41.

Vernal Pools

Vernal pools contain a layer of relatively impermeable hardpan or claypan soil, and they become inundated by winter rains. Most of the on-site vernal pools remain inundated throughout the spring and then dry as temperatures increase from late spring to early summer. Within the action area are 42 vernal pools west of State Route 41 and 11 vernal pools east of State Route 41. A total of 35 features delineated as potential vernal pools are east of State Route 41.

Table 2-3 shows the types of jurisdictional hydrologic resources with acreages delineated in the action area. Other waters of the U.S. consisting of the canal, culverts, ditches, and ephemeral streams total 1.24 acres. The ephemeral stream wetlands, seasonal wetlands, seasonal wetland swales, and vernal pools considered to be jurisdictional wetlands total 4.98 acres.

Table 2-3 Jurisdictional Hydrologic Resources

Hydrologic Resource Type	Area Acreage
Canal	1.0104
Culverts	0.0459
Ditches	0.0672
Ephemeral Stream	0.1149
Ephemeral Stream Wetland	0.1498
Seasonal Wetland	0.9212
Seasonal Wetland Swale	2.1218
Vernal Pool	1.7859

Source: Natural Environment Study, October 2019, revised May 2020

Environmental Consequences

Direct impacts to wetlands and other waters of the U.S. will occur through soil disturbance from construction activities, such as clearing, grubbing, grading, placement of fill material and trenching. The removal of wetlands and other waters will also result in direct impacts to plant and wildlife species that depend on these hydrologic resources for food, shelter, reproduction, and dispersal/migration.

Indirect impacts to hydrologic resources, as well as any downstream areas, may include a severed hydrological connection that may result in decreased function of the features. The plants and wildlife species that occupy these areas may be affected. In addition, there could be the introduction or spread of invasive species in the action area following construction activities.

Other direct but temporary impacts that will occur during construction include soil disturbance associated with utility relocation, construction staging areas, stockpile placement, vehicular and pedestrian traffic, and installation of temporary silt fencing.

Table 2-4 shows the direct and indirect impacts for wetlands and other waters of the U.S. expected at this time. A total 2.051 acres of jurisdictional hydrologic resources will be impacted by the project. A 404 Individual permit from the U.S. Army Corps of Engineers that includes the preparation of a Least Environmentally Damaging Practicable Alternative will be required prior to construction. A 401 Water Quality Certification from the Regional Water Quality Control Board will also be required prior to construction.

Caltrans will coordinate with the U.S. Army Corps of Engineers in the preparation of a Least Environmentally Damaging Practicable Alternative analysis. In addition to the No-Build Alternative, east and west alignment alternatives and the proposed project (Build Alternative) will be evaluated. The Least Environmentally Damaging Practicable Alternative analysis will determine that the project (Build Alternative) is the least environmentally damaging practicable alternative and considered but eliminated the other alternatives.

A California Department of Fish and Wildlife 1602 Streambed Alteration Agreement will also be acquired prior to construction because nine culvert locations in the project footprint were determined to be jurisdictional under Fish and Game Code 1600.

Coordination with regulatory agencies has begun related to the need for a 404 permit from the Sacramento District of the U.S. Army Corps of Engineers, a 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board, and a 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. Coordination with these regulatory agencies will

continue to take place during the Plans, Specifications and Estimates phase of the project. All permits must be in place prior to construction.

Table 2-4 Impacts to Jurisdictional Hydrologic Resources

Hydrologic Resource	Impact Type	Impact Area Acreage
Wetlands	Direct	0.422
Wetlands	Indirect	1.592
Other waters of the U.S.	Direct	0.028
Other waters of the U.S.	Indirect	0.009

Source: Natural Environment Study, October 2019, Revised May 2020

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to protect wetlands and other waters of the U.S. in the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources.
2. Temporary silt fencing will be installed within the project footprint and delineated as “Environmentally Sensitive Areas” to protect natural communities of concern next to the project footprint from construction-related disturbance. The fencing will be identified in the Construction Plans and Specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction.
3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of aquatic resources and other biological resources.
4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities, to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing

temporary construction impacts and are removed prior to project completion.

7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat.
8. Best management practices specifically developed for the project will be followed by the contractor. These may include:
    - Installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat.
    - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be reestablished with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.

Compensatory mitigation for all unavoidable permanent impacts to jurisdictional wetlands and other waters will be completed to ensure there is no net loss of these hydrologic resources. The specific mitigation ratios will be determined prior to the start of construction, however a minimum 1:1 compensation ratio will be used. Although the method has not been determined at this time, it could include any of the following: creation, restoration, preservation, or credit purchase at an approved conservation bank.

Wetlands Only Practicable Alternative Finding

This section is pursuant to Executive Order 11990, Protection of Wetlands. It was added to the final environmental document.

Alternatives

When compared to widening to the east side of the highway or widening to the west side of the highway, the build alternative will impact the least amount of wetlands within the project area, approximately 0.42 acre of permanent impacts compared to 0.88 acre of permanent impact if the highway was widened to the east or 0.80 acre of permanent impact if the highway was widened to the west. No impacts to wetlands would occur under the No-Build Alternative, but that alternative does not meet the purpose and need of the project.

Measures to Minimize Harm

The build alternative was designed to minimize impacts to wetlands within the project footprint. Best Management Practices and avoidance and

minimization measures will be implemented for the protection of wetlands. See the Avoidance, Minimization, and Mitigation section above.

Finding

Based on the above considerations, it was determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

2.3.3 Plant Species

Regulatory Setting

The U.S. 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. See the Threatened and Endangered Species section 2.3.5 in this document for detailed information about these species.

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

The regulatory requirements for the Federal Endangered Species Act can be found at 16 U.S. Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for the 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 1900-1913, and the California Environmental Quality Act, found at California Public Resources Code, Sections 21000-21177.

Affected Environment

A Natural Environment Study was completed for the project in October 2019 and was revised May 2020. This section provides a detailed description of six special-status plants that occur or have the potential to occur within the action area.

Species lists were obtained from the Sacramento U.S. Fish and Wildlife Service Information for Planning and Consultation Official Species List, and the California Natural Diversity Database and the California Native Plant

Society Online Inventory for the following quadrangles: Friant, Gregg, Lanes Bridge, Little Table Mountain, and Millerton Lake West.

When special-status plants are known to occur in the type(s) of habitat present in the project area, the biologists will try to observe reference sites (nearby accessible occurrences of the plants) to determine whether those species are identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and associated natural community. Botanical surveys were conducted in the action area in the spring and summer of 2017 and 2019 during appropriate blooming periods for target species and following confirmation of the target species in bloom at reference sites.

Brassy Bryum (Bryum chryseum)

The brassy bryum is a California plant of limited distribution with a ranking of 4.3 on the California Native Plant Society Rare and Endangered Plant Inventory. This moss species was recently found in the San Joaquin River watershed of Fresno and Madera counties. The species is a small golden plant with triangular leaves, red rhizoids (hair-like structures) in clusters at the base. It grows in openings in cismontane woodlands (deciduous and/or evergreen trees with open canopies), valley and foothill grasslands, and chaparral habitats (dense layer of shrubs and small trees).

There are no recorded observations within 5 miles of the action area. The closest occurrence was documented about 7 miles northeast of the project, in the Millerton Lake West quadrangle. Though this species was not identified in the action area during the botanical surveys, there may be suitable habitat on rock outcrops within the action area. Although brassy bryum was not observed in the action area during the 2017 and 2019 botanical surveys, there is potentially suitable habitat (non-native grassland) present. Direct impact calculations include both permanent and temporary impacts to species. Direct impacts to non-native grassland total 32.093 acres and no indirect impacts are anticipated.

Dwarf Downingia (Downingia pusilla)

The dwarf downingia is a California Native Plant Society 2B.2 listed annual herb. The 2B-rank identifies this species as state rare, but more common elsewhere. Threats to this species include development, off-road vehicle activity, grazing, surface water diversions, agriculture, non-off-road vehicle recreational use, disking, over collection, and non-native species of plants.

This species is found within vernal pool habitat, present within the northern San Joaquin Valley, north to the Sacramento Delta and along the Coast Ranges. Occurrences of the species have been identified on alluvial fan, basin rim, high terrace and sediments with acidic soils. The stem of the species grows from about 4 to 15 inches, with small white to pale-blue flowers measuring 0.9 to 0.16 inch. The bloom period for the species is March to

May. Although dwarf downingia was not observed in the action area during the 2017 and 2019 botanical surveys, there is suitable habitat (vernal pools) present. Direct impact calculations include both temporary and permanent impacts. Direct impacts to vernal pools total 0.993 acre and no indirect impacts are anticipated.

There are no recorded observations within 5 miles of the action area nor within Madera County. The closest occurrence was documented in 1979, about 5.5 miles southeast of the project.

Though the species was not seen during botanical surveys, the folded calicoflower (*Downingia ornatissima*) and other associated vernal pool plant species were identified during botanical surveys. Therefore, there is a potential for the dwarf downingia to be present in the action area.

Ewan's Larkspur (Delphinium hansenii ssp. ewanianum)

Ewan's larkspur is a California plant of limited distribution with a ranking of 4.2 on the California Native Plant Society Rare and Endangered Plant Inventory. It is a member of the buttercup family that has been identified in the Sierra Nevada foothills and in annual grasslands of Calaveras, Madera, and eastern Merced counties. Additional occurrences have noted the species in soils that are composed of sedimentary or igneous rock and on Mima Mounds, a type of soil formation associated with northern hardpan soils. Ewan's larkspur is a single erect stem that can grow up to 51 inches and produces violet-purple to maroon flowers that bloom between March and May.

The closest species occurrence was documented about 0.5 mile east of the project in 1932. Two other species occurrences between 5 and 5.5 miles from the project are dated from 1955 and 2003.

This species was not seen during the botanical surveys at the appropriate bloom time, but there may be suitable habitat east of State Route 41, which was not accessible during the botanical survey period. Therefore, there is a potential for this species to be present in the action area. Although Ewan's larkspur was not observed in the action area during the 2017 and 2019 botanical surveys, there is potentially suitable habitat (non-native grassland) present. Direct impact calculations include both permanent and temporary impacts to species. Direct impacts to non-native grassland total 32.093 acres and no indirect impacts are anticipated.

Hoover's Calycadenia (Calycadenia hooveri)

Hoover's calycadenia is a California plant that is considered to be rare throughout its range with a ranking of 1B.3 on the California Native Plant Society Rare and Endangered Plant Inventory. It is a member of the tarweed tribe in the sunflower family. This species inhabits rocky outcrops composed mostly of Ione sandstone, found in the northeastern San Joaquin Valley and Sierra Nevada foothill annual grasslands and woodlands. The species has an

erect stem that grows up to 23 inches with several slender spreading branchlets and delicate white-rayed flowers. The blooming period is between June and September.

There is one documented occurrence of this species—the plant was found growing in cracks of rocky outcrops about 1.5 miles east of the project in 2007.

Though this species was not identified in the action area during the botanical surveys, there may be suitable habitat on rock outcrops within the action area. In addition, there may be suitable habitat east of State Route 41, which was not accessible during the botanical survey period. Therefore, there is a potential for this species to be present in the action area. Although Hoover's calycadenia was not observed in the action area during the 2017 and 2019 botanical surveys, there is potentially suitable habitat (non-native grassland) present. Direct impact calculation include both temporary and permanent impacts to species. Direct impacts total 23.093 acres and no indirect impacts are anticipated.

Hoover's Cryptantha (Cryptantha hooveri)

Hoover's cryptantha is a California plant that is assumed eliminated in California and either rare or extinct elsewhere with a ranking of 1A on the California Native Plant Society Rare and Endangered Plant Inventory. It is an annual herbaceous member of the forget-me-not family that is endemic to California, meaning it occurs only in this state. It grows in valley and foothill grassland and inland dune habitats with coarse sandy soils.

One documented occurrence of this species was found in the Sierra Nevada National Forest, about 6.5 miles north of the project in 1935.

This species was not seen during the botanical surveys at the appropriate bloom time, but there may be suitable habitat east of State Route 41, which was not accessible during the botanical survey period. Therefore, there is a potential for this species to be present in the action area. Although Hoover's cryptantha was not observed in the action area during the 2017 and 2019 botanical surveys, there is potentially suitable habitat (non-native grassland) present. Direct impact calculations include both temporary and permanent impacts. Direct impacts total 23.093 acres and no indirect impacts are anticipated.

Sanford's arrowhead (Sagittaria sanfordii)

Sanford's arrowhead is a California plant that is considered rare throughout its range with a ranking of 1B.2 on the California Native Plant Society Rare and Endangered Plant Inventory. It is a member of the water-plantain family. This species occupies freshwater marsh habitats associated with the shallow margins of small lakes, ponds and sluggish waters of sloughs, slow creeks, rivers, canals, and ditches throughout the Central Valley. It ranges from Kern

County to Shasta County, but it has been eliminated through much of its range in the Central Valley. This species has long linear leaves that measure 5.5 to 9.8 inches long. It produces a branched cluster of white flowers, less than a half inch in size, from May through October.

One documented occurrence of this species was found in 2014—the plant was growing in a pond about 5 miles east of the project. Sanford's arrowhead was not seen in the action area during botanical surveys, but there is marginally suitable habitat in the action area to support this species.

Spiny-Sepaled Button-Celery (Eryngium spinosepalum)

The spiny-sepaled button-celery is a California plant that is rare and declining throughout its range, with a ranking of 1B.2 on the California Native Plant Society Rare and Endangered Plant Inventory. It is a perennial member of the carrot family. This species inhabits mostly vernal pools and vernal pool complexes in the San Joaquin Valley and adjacent foothills. It grows in northern hardpan and claypan vernal pools, roadside ditches, depressions, and swales in annual grassland. It is a stout plant, with branching stems reaching 11 to nearly 30 inches tall, with tiny white petals, which bloom between April and July.

This species is known to hybridize with *E. castrense* in the central and southern Sierra Nevada foothills and *E. vaseyi* in the southwestern portion of the San Joaquin Valley.

The spiny-sepaled button celery was seen in several vernal pools, seasonal wetlands, and seasonal wetland swales during botanical surveys and during wetland delineation surveys in 2018. The observed species is presumed to be a hybrid, with *E. castrense* and *E. vaseyi*, which are not rare species. Caltrans has decided to treat the on-site hybrid population of plants as *E. spinosepalum* since this species is known to intergrade with *E. castrense* and *E. vaseyi*.

Environmental Consequences

The brassy bryum, Ewan's larkspur, Hoover's calycadenia, and Hoover's cryptantha were not seen in the action area during the 2017 and 2019 botanical surveys. However, there is non-native grassland present that is potentially suitable habitat for these species. Direct impacts to non-native grassland total 23.093 acres and there are no indirect impacts anticipated.

Dwarf Downingia

Though the dwarf downingia was not seen in the action area during the botanical surveys, there is potentially suitable habitat (vernal pools) present. Direct impacts to vernal pools total 0.965 acre and no indirect impacts are anticipated.

Sanford's Arrowhead

Sanford's arrowhead was not seen in the action area during botanical surveys, but there is marginally suitable habitat (two ditches) in the action area that may support this species. Direct impacts to these ditches total 0.05 acre and no indirect impacts are anticipated.

Spiny-Sepaled Button-Celery

Soil disturbance associated with clearing, grubbing, and grading activities, as well as the operation of heavy equipment, will result in direct impacts to individual plants that occupy seasonal wetlands, seasonal wetland swales, and vernal pools within the project footprint. An indirect impact that could occur due to construction activities is a further reduction of available habitat due to the introduction or spread of invasive species.

Direct impacts to delineated seasonal wetlands, seasonal wetland swales, and vernal pools total 1.997 acre, and indirect impacts to the same features total 0.125 acre.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to protect wetland habitat and non-native grassland that could support the brassy bryum, dwarf downingia, Ewan's larkspur, Hoover's calycadenia, Hoover's cryptantha, Sanford's arrowhead, and spiny-sepaled button-celery within the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources.
2. Temporary silt fencing will be installed within the project footprint and delineated as "Environmentally Sensitive Areas" to protect natural communities of concern next to the project footprint from construction-related disturbance. The fencing will be identified in the Construction Plans and Specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction.
3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.
4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility

relocation, and clearing and grubbing activities, to ensure avoidance and minimization measures are carried out by the contractor.

5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing temporary construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat.
8. Best management practices specifically developed for the project will be followed by the contractor. These may include:
    - Installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat.
    - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be reestablished with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.
11. Pre-construction botanical surveys will be completed within suitable habitat in the project footprint and will follow “Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities” (CDFW 2018) the season prior to construction.
12. If sensitive plant species are found onsite during preconstruction surveys, Caltrans will implement a 25-foot buffer. If a 25-foot buffer is not feasible, coordination with the California Department of Fish and Wildlife will be required.

No compensatory mitigation is proposed. However, the mitigation for temporary impacts to wetlands and/or upland habitat for the California tiger salamander (see Section 2.3.5 Threatened and Endangered Species) will also benefit the brassy bryum, dwarf downingia, Ewan’s larkspur, Hoover’s

calycadenia, Hoover's cryptantha, Sanford's arrowhead, and the spiny-sepaled button-celery.

2.3.4 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. 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 2.3.5. 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 U.S. 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:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

This section presents a broader view of special-status animal species than the more focused discussion found in the Threatened and Endangered Species section, 2.3.5. The discussion is based on the Natural Environment Study that was prepared in October 2019 and was revised in May 2020.

American Badger (Taxidea taxus)

The American badger is a California species of special concern. The American badger has a flattened wide body with short legs. It is yellowish-grey with a white stripe from the nose over the top of the head. These badgers have white cheeks and a black spot in front of each ear. They have black feet, extremely long front claws, and short yellowish tails.

The American badger is uncommon, but can be found throughout most of the state, except for the northern coast area. The badger is most abundant in drier open stages of most shrub, forest, and herbaceous habitats. It digs burrows in friable (crumbly) soils for cover and will frequently use old burrows. These badgers consume a variety of prey, including rodents, reptiles, insects, earthworms, eggs, birds, and carrion. They are active all year and mate in summer and early fall. Litters of 2 or 3 young are born in March and April.

Most habitat for the American badger has been converted to urban and agricultural uses, especially within the San Joaquin Valley. Agricultural disking of the soil renders the habitat unsuitable for the badger and most other burrowing animals. While the badger has few, if any, natural predators, rodent control measures such as poisoning and trapping can reduce badger prey availability or result in secondary poisoning. Death due to vehicle collision is a factor in areas bisected by heavily traveled highways.

No American badgers were seen within the action area during biological surveys. A potential badger burrow was found in March 2019 along a berm next to the Madera Canal. A recent occurrence of a live American badger from 2017 was documented in rolling terrain with vernal pools, about 4 miles west of the action area. There was also a dead badger reported about 2 miles north of the action area in 2017.

The non-native grassland areas along with embankments next to the Madera Canal may contain potentially suitable burrowing/denning habitat for badgers but, due to the heavy traffic pattern along this corridor, it is likely that badgers prefer burrowing/denning habitat farther away from the road. Due to the presence of California ground squirrels and other small mammals in the non-native grassland habitat, it is likely that badgers may forage occasionally in the action area.

Burrowing Owl (Athene cunicularia)

The burrowing owl is a California species of special concern. It is the only owl in North America that nests in underground burrows. Its natural habitat consists of open dry grasslands, deserts, or open scrublands with low vegetation, soils suitable for digging, and a suitable prey base of burrowing rodents, small reptiles, and insects. Burrowing owls may also occur in some agricultural areas, ruderal grassy fields, vacant lots and pastures if the vegetation is suitable and there are useable burrows and foraging habitat nearby.

The burrowing owl is about 9 inches long, with a 15-inch wingspan, and weighs 5 to 8 ounces. It is mostly brown with white spots on the wings and back, and an off-white breast with brown bars. The eyes are yellow, and the face is highlighted by a conspicuous white eyebrow. The burrowing owl has long legs and spends a great deal of time standing on the ground or on a

small mound near the burrow entrance or perched on low perches such as brush and fence posts. It can be active during day or night.

Burrowing owl predators include larger raptors, badgers, skunks, snakes, and feral or domestic dogs and cats. Rodent control efforts, such as poisoning and trapping, can reduce the availability of prey and may also contribute to secondary poisoning. Because the owl often flies low to the ground, collisions with vehicles is another mortality factor for the burrowing owl. Much of burrowing owl habitat has been lost to urban and agricultural development, particularly throughout the San Joaquin Valley. Small isolated populations can be found in pockets of remaining habitat, but the overall population trend is declining.

Three documented burrowing owl occurrences were found within 5 miles of the action area from 2000–2002. No burrowing owls or their sign (dens or owl pellets) were found within the action area during biological surveys; however, there is potentially suitable habitat for denning and foraging.

The non-native grassland areas may contain potentially suitable denning/foraging habitat for the burrowing owl but, due to the heavy traffic pattern along this corridor, it is likely that the owls prefer habitat farther away from the road. The foraging potential in the grasslands seems to be favorable based on the raptor presence documented during biological surveys.

California Horned Lark (Eremophila alpestris actia)

The California horned lark is on the State watch list. This species prefers open habitats, usually where trees and large shrubs are absent. It breeds from March through July and builds a grass-lined nest on the ground within a small depression, natural or dug by the female. These larks forage for seeds and insects by walking along the ground.

California horned larks were seen foraging in the action area during bird surveys and incidentally during other biological surveys. Active nests were not found within bare ground habitat, which includes seasonal wetlands, seasonal wetland swales, and vernal pools within the action area. However, many of these features remain inundated through the spring and will not be used as nesting habitat until they are completely dry.

One documented occurrence was found about 5 miles south of the action area in 1992.

Loggerhead Shrike (Lanius ludovicianus)

The loggerhead shrike is designated a California Species of Special Concern by the California Department of Fish and Wildlife. Loggerhead shrikes can occur in broadleaved upland forest, savannah, pinyon-juniper woodland, Joshua tree, riparian woodland, desert oasis, Mojavean desert scrub, Sonoran desert scrub, and desert wash habitats. However, they prefer open

habitat for hunting and perch on barbed wire fences, fence posts, power lines, or any other suitable elevated location where they can scan the ground for prey.

Loggerhead shrikes are the only predatory songbird. Because they lack talons or claws, they frequently impale their prey on sharp objects and eat the prey later or store it. Shrikes prefer grasshoppers, crickets, beetles, and wasps, but they also eat amphibians, reptiles, small mammals, songbirds, and even roadkill and carrion.

Loggerhead shrikes are year-round residents throughout much of their range, including the Central Valley of California. Although loggerhead shrikes are still relatively abundant in a portion of their range, this species' numbers have declined significantly. Some causes for this decline likely include the use of chemical pesticides between the 1940s and 1970s, vehicle collisions, development, conversion of habitat, altering of prey populations by livestock grazing, and nest predation by ravens.

There are no documented occurrences of loggerhead shrikes within 5 miles of the action area. However, the species was seen during bird surveys in 2018. An adult pair was observed feeding fledglings in a tree within the action area.

Pallid Bat (Antrozous pallida)

The pallid bat is a California Species of Special Concern and is included under Section 2126 of the California Fish and Game Code, which states that it is unlawful for any person to take any mammal identified by Section 2118, which includes all species of the Order Chiroptera (bats).

The pallid bat is a common species throughout California at low elevations. It can be found in arid deserts, forests, woodlands, shrublands and grasslands in areas throughout the southwestern United States, with some populations distributed in New Mexico, Colorado, eastern Wyoming and north through Oregon, Washington, and British Columbia. It is most common in open dry habitats with rocky areas and day-roosts in caves, crevices, mines, and sometimes hollow trees where it is protected from high temperatures, though a nearby water source is necessary. Pallid bats have been known to inhabit highway bridge structures, especially those near agricultural fields.

The species is light brown and measures about 3.5 to 5.3 inches from head to toe, with prominent ears, large eyes, cream-colored dorsal fur and a light grey or light brown tip. It uses echolocation (sound waves) to find and forage on arachnids, beetles, moths, scorpions and various insects from 1 to 8 feet above ground.

Breeding occurs in early April. Maternity colonies may be in the hundreds, while litters may average one to three individuals. This species is sensitive to disturbance of roosting sites due to its importance for daily survival and

reproduction success. These bats are not known to migrate and likely spend the winter hibernating close to their summer roosts.

No bats were found during a two-night survey in August 2019. No pallid bat calls were identified through acoustical analysis. One documented occurrence of the pallid bat was found in the Sierra Nevada National Forest in 1979 about 6.5 miles north of the project.

The pallid bat is not expected to be present in the action area.

Western Mastiff Bat (Eumops perotis californicus)

The western mastiff bat is a California Species of Special Concern. It is an uncommon resident in the southeastern San Joaquin Valley and the Coastal Ranges in habitats from woodlands to grasslands or urban environments where open, semi-arid habitats occur. The species roosts in small colonies in bridge highway structures, crevices of cliff faces, high buildings, trees, and tunnels. Foraging is done in flight by catching insects, with foraging distances as far as 15 miles from the roost site. The species is active year-round, but goes into daily torpor (inactivity) from December through February.

No bats were found during a two-night survey in August 2019. No western mastiff bat calls were identified through acoustical analysis. One occurrence was documented of the western mastiff bat in 1994 at Little Table Mountain about 1.5 miles east of the project.

The western mastiff bat is not expected to be present in the action area.

Western Spadefoot Toad (Spea hammondii)

The western spadefoot toad is a California Species of Special Concern. It is historically distributed throughout the Central Valley, Coast Ranges, and coastal lowlands from San Francisco Bay southward to Mexico at elevations of 3,000 feet. Lowlands include washes, river floodplains, alluvial fans, alkali flats and mountain foothills that contain gravelly soil with open vegetation and short grasses. The species has become eliminated throughout most of the Southern California lowlands and many locations within the Central Valley.

The western spadefoot toad is almost completely terrestrial and spends most of its life underground in a dormant state. The species inhabits vernal pools and wetlands mostly within grasslands, but some populations have occurred in valley-foothill hardwood woodlands and orchard or vineyard habitats.

The toads are named for the hardened black wedge-shaped tubercles on the hind feet that enable them to burrow into the soil where they hide during the day. They eat insects, worms, invertebrates, grasshoppers, beetles and other small ground insects. Breeding takes place during the rainy season, from January to May, peaking in February and March. The decline in their population is a result of introduced species to breeding ponds, use of

pesticides in wetlands, habitat loss from urban development, and land conversion to agriculture.

The western spadefoot toad was found as an incidental species during the 2018 California tiger salamander surveys. In addition, there are 27 documented occurrences ranging from 1991 to 2017, within a 5-mile radius of the action area. The on-site non-native grassland habitat is considered suitable upland burrowing habitat for the western spadefoot toad. In addition, there is suitable aquatic habitat that may be used temporarily by the toad moving through the action area. Suitable breeding habitat likely occurs next to the action area based on site conditions found between 2017 and 2019.

Environmental Consequences

American Badger

No badgers or burrows/dens were found in the action area, so no direct impacts to individual badgers are expected to result from the project. However, noise associated with construction activities at night could deter this species from using suitable foraging habitat in the project footprint. Additional direct impacts to this species, if present, include the permanent and temporary loss of potentially suitable foraging habitat. Although badgers were not observed in the action area during biological surveys, there is potentially suitable habitat (non-native grassland) present. Direct impact calculations include both temporary and permanent impacts. Direct impacts include 23.093 acres and no indirect impacts are anticipated.

Burrowing Owl

No burrowing owls or burrows/dens were found in the action area, so no direct impacts to individual owls are expected to result from the project. However, potential direct impacts to the species include the permanent and temporary loss of potentially suitable foraging habitat, which includes the non-native grassland in the action area. Although burrowing owls were not observed in the action area during biological surveys, there is potentially suitable habitat (non-native grassland) present. Direct impact calculations include both temporary and permanent impacts. Direct impacts to non-native grassland total 23.093 acres and no indirect impacts are anticipated.

California Horned Lark

No nesting California horned larks were found in the action area, so no direct impacts to individual larks are expected to result from the project. However, potential direct impacts to the species include the permanent and temporary loss of potentially suitable foraging habitat, which includes the non-native grassland within the action area. Direct impact calculations include both temporary and permanent impacts. Direct impacts to non-native grassland total 23.093 acres and no indirect impacts are anticipated.

Loggerhead Shrike

Though loggerhead shrikes were found in the action area during biological surveys, there are no expected impacts to individuals or nesting habitat as a result of the project. The tree where the loggerhead shrikes were seen will be avoided during construction; however, there may be noise disturbances associated with construction activities. Potential direct impacts to the species include the permanent and temporary loss of potentially suitable foraging habitat, which includes all of the non-native grassland within the action area. Direct impact calculations include both temporary and permanent impacts. Direct impacts to non-native grassland total 23.093 acres and no indirect impacts are anticipated.

Pallid Bat

Pallid bats were not identified during acoustic and visual surveys; therefore, no direct impacts are expected to occur to this species. There is limited roosting habitat within the project, such as mature trees, that could be used by this species. There are no direct impacts to potentially suitable bat roosting habitat expected as a result of the project. Impacts due to noise and vibrations are expected to be minimal. No indirect impacts are anticipated.

Western Mastiff Bat

Western mastiff bats were not identified during acoustic and visual surveys; therefore, no direct impacts are expected to occur to this species. There is limited roosting habitat within the project, such as trees and the Madera Canal Bridge, that could be used by this species. There are no direct impacts to potentially suitable bat roosting habitat expected as a result of the project. Impacts due to noise and vibrations are expected to be minimal. No indirect impacts are anticipated.

Western Spadefoot Toad

Though the western spadefoot was found next to the action area, no suitable breeding sites appear to be within the action area. There is suitable upland habitat and temporary aquatic habitat within the action area that may be used by the western spadefoot toad. The western spadefoot toad has habitat requirements that are similar to the California tiger salamander, so habitat impacts were also considered similar. See Table 2-5 in the Threatened and Endangered Species Section 2.3.5, Environmental Consequences.

Direct impacts totaling 23.093 acres include removal of upland habitat due to shoulder widening, side gutter construction, archaeological excavation, construction traffic, foot traffic, utility relocation and silt fencing. Direct impacts totaling 2.147 acres include removal of temporary aquatic habitat due to culvert work, shoulder widening, side gutter construction, construction traffic, foot traffic, utility relocation and silt fencing. Indirect impacts to temporary aquatic habitat total 0.125.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to protect habitats of non-native grassland that could support American badgers, burrowing owls, California horned larks, loggerhead shrikes, and western spadefoot toads in the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources. The aquatic resources may be suitable habitat for some prey consumed by special-status animals.
2. Temporary silt fencing will be installed within the project footprint and delineated as “Environmentally Sensitive Areas” to protect natural communities of concern next to the project footprint from construction-related disturbance. The fencing will be identified in the Construction Plans and Specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction.
3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.
4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing temporary construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat.

8. Best management practices specifically developed for the project will be followed by the contractor. These may include:
    - Installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat.
    - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be reestablished with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.

No compensatory mitigation is proposed for the American badger, burrowing owl, California horned lark, loggerhead shrike, or western spadefoot toad. However, the mitigation that will be completed to compensate for habitat impacts to the California tiger salamander will also benefit these species that may use similar habitat in the project footprint. Also, no compensatory mitigation is proposed for the pallid bat or western mastiff bat.

American Badger

Pre-construction surveys will be completed within suitable habitat in the project footprint prior to the start of any ground-disturbing activities. If an American badger burrow/den is found, it will be avoided and designated as an Environmentally Sensitive Area with orange mesh fencing, if possible. If avoidance is not possible, Caltrans may propose additional minimization measures in coordination with the California Department of Fish and Wildlife, if necessary.

Burrowing Owl

Pre-construction surveys will be completed, no more than 10 days prior to the start of ground or vegetation disturbance, within suitable habitat to ensure no birds are nesting in or next to the project footprint following the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game, 2012). A total of four surveys may be conducted from February 15–July 15 or December 1–January 31, depending on the start of initial ground-breaking activities.

If an active owl burrow is found, it will be avoided and designated as an Environmentally Sensitive Area with orange mesh fencing, if possible. If avoidance is not possible, Caltrans will propose additional minimization measures, including no disturbance buffers for occupied burrows where feasible, from the *Staff Report on Burrowing Owl Mitigation* (California

Department of Fish and Game, 2012) in coordination with the California Department of Fish and Wildlife where feasible.

A qualified biologist will excavate any occupied burrow found on-site. Excavation of an occupied burrow will only occur during the non-breeding season before breeding behavior is exhibited and after the burrow is confirmed to be empty through non-invasive methods, such as surveillance.

Impacts to occupied burrows of the burrowing owl will be replaced with artificial burrows at a ratio of one burrow collapsed to one artificial burrow constructed (1:1) where feasible.

In addition, a special provision for migratory birds will be included in the construction contract to ensure that no potential nesting migratory birds are affected during construction.

California Horned Lark/Loggerhead Shrike

Pre-construction migratory bird nest surveys will be completed between February 1 and September 30 for the California horned lark and loggerhead shrike to ensure no birds are nesting in or next to the project footprint. The surveys will be conducted no more than 10 days prior to the start of ground or vegetation disturbance.

If any nesting pairs are identified, additional avoidance and minimization measures will be implemented to avoid direct impacts. These measures include but are not limited to: Environmentally Sensitive Area fencing enclosing the nest; 100-foot “no-work” buffer surrounding the nest; and a biological monitor present during construction activities that occur in proximity to the nest.

In addition, a special provision for migratory birds will be included in the construction contract to ensure that no potential nesting migratory birds are affected during construction.

Pallid Bat/Western Mastiff Bat

Pre-construction visual and/or acoustic surveys will be completed within suitable habitat in the project footprint prior to the start of any ground-disturbing activities. These surveys will be done between March 1 and November 1. If a pallid bat or western mastiff bat roost site is found, it will be avoided and designated as an Environmentally Sensitive Area with orange mesh fencing, if possible. If avoidance is not possible, Caltrans may propose additional minimization measures in coordination with the California Department of Fish and Wildlife, if necessary.

Western Spadefoot Toad

Additional avoidance and minimization measures to be implemented for the California tiger salamander, which will also benefit the western spadefoot, include the following:

Potentially suitable small mammal burrows may be excavated by a qualified biologist following approval of a California tiger salamander relocation plan. Any western spadefoot toads that are discovered will be relocated to a suitable upland burrow outside of the project footprint, based on prior coordination and approval from California Department of Fish and Wildlife. Excavation will only occur where Caltrans has legal authority to do so.

If a 70% or greater chance of rainfall is predicted within 24 hours of project activity, a qualified biologist will survey the project site for the presence of migrating western spadefoot, prior to the start of construction each day that rain is forecasted.

No project work that could affect migrating spadefoot will occur during or within 48 hours following significant rain events, defined as ¼-inch or more of rain in a 24-hour period.

For work conducted during the western spadefoot toad migration season (November 1–March 31), a qualified biologist will survey active work areas (including access roads) in the morning, following measurable precipitation that measures less than ¼-inch. Construction may not begin until the biologist has confirmed that no western spadefoot toad is in the work area.

Basins or trenches greater than 6 inches deep will be covered or have an escape ramp present. These will be checked daily for trapped western spadefoot toads and other wildlife. Before they are filled, the basins or trenches will be thoroughly inspected for trapped wildlife.

Any pipes or culverts stored on-site must be capped to prevent entry by a western spadefoot toad. Pipes must be inspected before installation to ensure that western spadefoot toads have not taken cover inside. If any western spadefoot toads are found in pipes or culverts, the assigned Caltrans biologist will be notified.

Vehicle travel will be limited to established roadways, unless otherwise designated. Any travel beyond the paved highway will adhere to a 20-mile-per-hour daytime speed limit and 10-mile-per-hour nighttime speed limit.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. 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 U.S. 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 the 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 discussion of threatened and endangered species is based on the Biological Assessment prepared for the project dated, July 12, 2019, and involves plants and animals that are formally listed as endangered under the Federal Endangered Species Act and/or may also be listed under the California Endangered Species Act. In addition, some information is based on the Natural Environment Study prepared for the project in October 2019 and was revised in May 2020.

The U.S. Fish and Wildlife Service and the National Marine Fisheries Service provided Caltrans updated species lists for the project on April 14, 2020. These lists are in Appendix B. The project area contains no species under the jurisdiction of the National Marine Fisheries Service; therefore, no further consultation is necessary.

Caltrans initiated Section 7 consultation with the U.S. Fish and Wildlife Service on July 12, 2019 with the submittal of the Biological Assessment. Caltrans is working on obtaining concurrence in a Biological Opinion that the project may affect, but is not likely to adversely affect the San Joaquin kit fox, may affect, and is likely to adversely affect the California tiger salamander, vernal pool fairy shrimp, hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover and designated critical habitats for the hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, and vernal pool fairy shrimp.

Consultation with the California Department of Fish and Wildlife under the California Endangered Species Act will be initiated, and a 2081 Incidental Take Permit is expected for the California tiger salamander. Also, Caltrans may need to coordinate with the California Department of Fish and Wildlife regarding the need for a 2081 Incidental Take Permit for the Crotch bumblebee and Swainson's hawk.

The action area is established when addressing impacts to special-status species and their critical habitat. The action area surrounds a 2.9-mile segment of State Route 41 from north of Avenue 15 to south of State Route 145. It includes non-native grassland, pasture, vernal pools, seasonal wetlands, seasonal wetland swales, ephemeral streams, ephemeral stream wetlands, culverts and ditches, the Madera Canal, developed areas, ruderal areas, and a drainage basin. The action area and total area studied is 172.28 acres.

The following is a discussion about the breeding season, habitat requirements, recorded occurrences, and survey results for only the

threatened and endangered species and their associated designated critical habitats that may be affected by the project. Critical habitat is a habitat area essential to the conservation of a listed species, though the area need not actually be occupied by the species at the time it is designated.

Succulent (Fleshy) Owl's Clover (Castilleja campestris ssp. succulenta)

The succulent (fleshy) owl's clover is a federally threatened and state-endangered annual plant. It is a hemiparisitic plant because it gets nourishment from roots of other nearby plants. It is a member of the broomrape family.

This plant occurs mostly in the Southern Sierra foothills vernal pool region on northern claypan and northern hardpan vernal pool soils. The species tends to prefer more acidic soils and vernal pools around 6-10 inches deep, where there is not an overabundance of nonnative, water-dominant grasses. It blooms between April and May, grows erect from 1.96 to 11.8 inches, and produces small yellow, long tubular flowers that form a clustered spike. Threats to this species include urbanization, agriculture, and other vernal pool habitat-degrading human activities such as recreational and landscape maintenance activities.

No documented occurrences of succulent (fleshy) owl's-clover were found within the action area. The species was not identified during botanical surveys of the action area. The reference site visited for this species is about 1.5 miles from the project. Based on the potential habitat present for succulent owls clover and the fact that Caltrans was unable to survey the east side of the Action Area for this species Caltrans has determined the project May Affect and is Likely to Adversely Affect this species.

Designated Critical Habitat for Succulent (Fleshy) Owl's Clover

The action area is within a portion of Critical Habitat Unit 4C, Madera and Fresno Counties. About 108 acres of critical habitat occur within the action area.

The portions of the action area that are within designated critical habitat include topographic mounds and swales that flow seasonally within surrounding uplands. The depressional aquatic features contain underlying restrictive soil layers that allow the features to become inundated and subsequently hold water long enough to support germination, flowering, and seed production of annual native wetland species. Therefore, the portions of the action area within designated critical habitat contain the physical and biological features to support the succulent (fleshy) owl's clover.

Hairy Orcutt Grass (Orcuttia pilosa)

The hairy Orcutt grass is a federally endangered and state endangered annual grass. It is endemic to California's vernal pool system, with

populations in the northeastern Sacramento Valley and the southern Sierra Nevada foothills. The species occurs in northern claypan and northern hardpan vernal pools. The hairy Orcutt grass grows in tufts of long, soft straight hairs, with an arrangement of flowers that are about 2 to 4 inches in width and length. Bloom period for this species begins in April and extends through October. Threats to this species include agriculture, development, overgrazing, channelization, and competition with nonnative plants.

No documented occurrences of the hairy Orcutt grass were found within the action area. The species was not identified during botanical surveys of the action area. The reference site visited for this species is about 8.5 miles from the project. Due to the potential habitat present within the Action area and the fact that the east side of the Action area was not able to be surveyed Caltrans has determined the project May Affect and is Likely to Adversely Affect this species.

Designated Critical Habitat for Hairy Orcutt Grass

The action area lies within a portion of Critical Habitat Unit 6, Madera County. About 69 acres of critical habitat occur within the action area.

The portions of the action area that are within designated critical habitat include topographic mounds and swales that flow seasonally within surrounding uplands and the aquatic features contain underlying restrictive soil layers that allow them to become inundated and subsequently hold water for long enough to support germination, flowering, and seed production of this species. Therefore, the portions of the action area within designated critical habitat contain the physical and biological features to support the hairy Orcutt grass.

San Joaquin Valley Orcutt Grass

The San Joaquin Valley Orcutt grass is a federally threatened and state endangered annual grass that is restricted to the Southern Sierra foothills vernal pool region. It is found in northern claypan, northern hardpan, and northern basalt flow vernal pools.

This species grows underwater for three months or more, initially develops aquatic floating leaves, then terrestrial leaves as evaporation from the vernal pools occur during early summer months, followed by flower production, June through September. This grass stands erect, 2 to 6 inches, and grows in grayish-green tufts with a spiked cluster of narrow, flattened florets crowded near the top one-third of the stem. The species is found in acidic soils, which can vary in texture from clay to sandy loam. Threats to this species include agriculture, development, overgrazing, channelization, and nonnative plants.

No documented occurrences of the San Joaquin Valley Orcutt grass were found within the action area. This species was not identified during botanical

surveys of the action area. The reference site visited for this species is about 2 miles from the project.

Designated Critical Habitat for San Joaquin Valley Orcutt Grass

The action area lies within a portion of Critical Habitat Unit 3B, Madera County. About 70 acres of critical habitat occur within the action area.

The portions of the action area that are within designated critical habitat include topographic mounds and swales that flow seasonally within surrounding uplands and the aquatic features contain underlying restrictive soil layers that allow them to become inundated and subsequently hold water long enough to support the germination, flowering, and seed production of the species. Therefore, the portions of the action area within designated critical habitat contain the physical and biological features to support the San Joaquin Valley Orcutt grass.

Crotch Bumble Bee

The Crotch bumble bee is state listed as Candidate Endangered. Its range extends from Central California south to Baja California del Norte, Mexico, and includes coastal areas to the eastern edges of the deserts and the Central Valley, but largely excluding mountainous areas of California. Though the Central Valley was included in its historic range, the bee now appears to be absent from most of it.

The females are the largest bumble bee in the colony and differ in appearance from the males, but not the worker bees. The bees visit a wide variety of flowering plants for nectar and/or pollen from spring to fall. They use rodent burrows mostly for nesting purposes and overwintering and only for one year. Threats to this species include habitat loss, intensive use of agricultural lands, livestock grazing, fire and fire suppression, honeybee competition, disease, and increased use of herbicides, insecticides, and pesticides.

The closest species occurrence was recorded about 6.5 miles north of the project in 1953 within the Sierra Nevada National Forest. The second occurrence was about 8 miles east of the project next to Millerton Lake in 1982.

Focused surveys for the Crotch bumble bee were not conducted, but there is marginally suitable habitat for this species within the action area, which includes non-native grassland, commonly associated flowering plants (genera *Asclepias*, *Clarkia*, *Eschscholzia*, *Lupinus*, *Medicago*, and *Phacelia*), and abandoned holes made by ground squirrels and mice. However, the disturbances associated with herbicide spraying and mowing in the right-of-way along with grazing practices outside of the right-of-way may preclude the occurrence of the Crotch bumble bee in the action area.

Vernal Pool Fairy Shrimp (Branchinecta lynchi)

The vernal pool fairy shrimp is a federally threatened freshwater crustacean found in vernal pools or vernal pool-like habitats within California and southern Oregon. This shrimp tends to prefer smaller pools with clear cooler water. The vernal pool fairy shrimp feeds on algae, bacteria, protozoa and detritus, but has no anti-predator defenses, so it is a food source for other species, including the California tiger salamander, western spadefoot toad and various waterfowl, which may disperse fairy shrimp to other vernal pools during migration.

These shrimp range in size from 0.12 to 1.5 inches long and typically appear to be semi-transparent or grayish-white in color with delicate elongated bodies, large stalked compound eyes, and 11 pairs of swimming legs. The amount of time this species needs to mature and complete reproduction varies between 18 and 147 days and depends on temperature; however, the average is reported to be 39.7 days.

Protocol surveys for listed vernal pool branchiopods were conducted in the action area during the 2003-2004, 2004-2005, 2014-2015, and 2015-2016 wet seasons and the 2015 dry season. Vernal pool fairy shrimp were observed in or next to the action area for surveys conducted during wet seasons prior to 2015-2016. Branchiopod cysts were collected during the 2015 dry season and were genetically tested to be vernal pool fairy shrimp. Based on the survey results and suitable habitat within the action area, the presence of vernal pool fairy shrimp is inferred for 30 seasonal wetlands, 25 seasonal wetland swales, and 80 vernal pools within the action area.

Designated Critical Habitat for Vernal Pool Fairy Shrimp

The action area lies within a portion of Critical Habitat Unit 24A, Madera County. About 72 acres of critical habitat occur within the action area.

The portions of the action area within designated critical habitat contain non-native grassland with interspersed aquatic features such as seasonal wetlands and swales, and vernal pools. Based on previous vernal pool branchiopod wet surveys, these aquatic features exhibit seasonal flow and provide hydroperiods of sufficient duration during years of average rainfall to support the incubation, maturation, and reproduction of vernal pool fairy shrimp. Therefore, the portions of the action area within designated critical habitat contain the physical and biological features to support vernal pool fairy shrimp.

California Tiger Salamander (Ambystoma californiense)

The California tiger salamander (Central California Distinct Population Segment) is listed as a federally threatened and a state threatened species. Five genetically distinct California tiger salamander populations occur throughout California's Central Valley, Sierra Nevada, Coast Ranges, and

San Francisco Bay. The Central Valley population is found below about 1,500 feet.

The species frequents annual grasslands, foothills, oak savanna and edges of mixed woodland, where it spends most of its life underground in ground squirrel or gopher burrows. It emerges only after precipitation to congregate at ephemeral breeding pools or ponds for spawning. Historically, the species uses vernal pools as breeding sites but, due to habitat destruction, the California tiger salamander has been found in livestock ponds and other perennial ponds.

Massive migrations to breeding ponds occur during winter seasonal rains, with migration patterns and distances identified upwards of 1.4 miles. Seasonal wetlands that are used by the California tiger salamander for breeding typically must hold water for a minimum of 10 to 12 weeks to allow enough time for salamander larvae to fully develop.

The species is about 7 to 8 inches long with a stocky black body, a broad, rounded snout, large pale yellow to white spots and bars randomly marking the lateral side body. Adult California tiger salamanders are terrestrial amphibians, but fully aquatic, with external gills and fins during the larval stage.

Thirty-two California tiger salamander occurrences have been documented within an approximate 5-mile buffer of the action area between 1973 and 2000. One documented occurrence of California tiger salamander larvae within the action area was recorded in 1992. The closest recent occurrences are from April 2019 when larvae were found about 1.5 miles from the project. No California tiger salamanders were seen during surveys next to the action area in 2018. There is suitable aquatic habitat that may be used temporarily by California tiger salamanders, as well as suitable upland habitat (non-native grassland), based on the presence of ground squirrel and other small mammal burrows.

Tricolored Blackbird (Agelaius tricolor)

The tricolored blackbird is listed as a state threatened species and Species of Special Concern. Its abundance is greatest in the Central Valley and within the surrounding foothills of California, though breeding populations can be found in regions of Oregon, Washington, and Nevada. The species is a permanent resident of California, but it migrates during breeding season, usually mid-March through early August, and some populations may also migrate during winter. The tricolored blackbird forms the largest breeding colonies of any North American passerine, with individual colonies composed of thousands of birds. Colonies have strict breeding site requirements that include an open accessible water source, an adequate food source, and secure substrate such as: nettles, thistles, safflower, tamarisk, giant reed, and riparian scrub species.

Ideal foraging conditions for tricolored blackbirds include agricultural areas that are shallow flood-irrigated, mowed, or grazed fields such as rice, alfalfa, irrigated pastures, cut grain fields below 6 inches, as well as annual grasslands, cattle feedlots, and dairies. These blackbirds also forage in remnant native habitats, including wet and dry vernal pools and other seasonal wetlands, riparian scrub habitats, and open marsh borders.

They typically lay 3 to 4 eggs, with an incubation period of about 11 to 12 days. Hatchlings require the support of their parents until about 25 days old. Most breeding tricolored blackbirds forage within 3 to 4 miles of their colony due to high predation risk from the common raven, Cooper's hawk, northern harriers, coyote, black-crowned night-heron, and raccoons.

Tricolored blackbirds were not seen or heard in the action area during the biological surveys, but red-winged blackbirds were seen. Three documented occurrences of tricolored blackbird nesting colonies were found within 3.5 miles of the action area from 1995 to 2010. The closest occurrence is several hundred feet from the action area within grazed annual grassland. This occurrence currently does not contain potential nesting habitat for this species.

Though there is no suitable breeding habitat for the species within the action area, there may be suitable foraging habitat within the non-native grasslands, seasonal wetlands, seasonal wetland swales, and vernal pools.

Swainson's Hawk

The Swainson's hawk is listed as a California state-threatened species. It is a summer migrant in the Central Valley, with about 95% of its habitat occurring in the Central Valley. The species inhabits grasslands, alfalfa fields and livestock pastures where it forages on mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, birds, and occasionally fish. It soars at various levels in search of prey, catching insects and bats in flight or walking on the ground to catch invertebrate prey. The hawk is medium-sized, with a dark head and breast band, but light-colored belly and dark wings with pale coverts. In flight, the wings are pointed and curve upward.

The Swainson's hawk roosts in large trees, but will roost on the ground if no trees are available. Breeding occurs from late March to late August, with peak activity occurring in late May through July. These hawks lay 2 to 4 eggs, with an incubation period of 25 to 28 days. Nests occur in open riparian habitat with scattered trees or small groves in sparsely vegetated flatlands.

Bird surveys were conducted along State Route 41 in the project limits and within 0.5-mile of State Route 41 between 2017 and 2019. Raptor nests were seen in trees within and next to the action area. Swainson's hawks were seen foraging in the action area, but no active nests were found in the action area.

Several documented occurrences of Swainson's hawks were found within 5 miles of the action area. The closest occurrence of a nest building pair from 2013 was not recorded as successful (i.e., producing young, fledglings). Other occurrences between 2016 and 2017 include nesting pairs and/or active nests, with one occurrence in a tree of a private residence.

The action area contains very limited nesting habitat for Swainson's hawks because most of the large mature trees are occupied by other nesting raptors. Due to the proximity of the road, Swainson's hawks may be selecting less-disturbed nesting sites, given the availability of these sites surrounding the project.

San Joaquin Kit Fox (Vulpes macrotis mutica)

The San Joaquin kit fox is listed as a federal endangered and state threatened species. Historically, the San Joaquin kit fox ranged in semi-arid habitats throughout the Central Valley and arid grasslands of the adjacent foothills. The species' current range has been reduced from its previous northern extent, and existing populations have become fragmented.

San Joaquin kit foxes prefer valley and foothill grasslands, or grassy open-stage habitats with scattered shrubs, in areas with loose-textured soils, with a suitable prey base. However, some populations have been shown to adapt to different conditions in areas where their habitat has been altered by development. They may live near and forage in tilled and fallow fields, but have been reported to be permanently displaced by lands that are intensively irrigated.

San Joaquin kit foxes have been impacted by the loss and fragmentation of their habitat from development, vehicle mortalities, rodenticides, pesticides, shootings, and predation by coyotes, bobcats, red foxes, American badgers, feral dogs, and large raptors.

San Joaquin kit foxes are mostly nocturnal and stay active throughout the year. They use dens for shelter, reproduction, protection from predators, and temperature regulation, and their dens typically have a distinct keyhole-shaped entrance. Food sources for San Joaquin kit foxes in the central portion of their range include the following: white-footed mice, insects, California ground squirrels, kangaroo rats, San Joaquin antelope squirrels, black-tailed hares, and chukars (game birds).

The closest documented occurrence of a San Joaquin kit fox to the action area was recorded in Friant in the early 1990s. Focused surveys for the San Joaquin kit fox were not completed in the action area, and no observations of this species' dens, scat, or tracks were found during any of the biological surveys. Though the San Joaquin kit fox is not expected to occur within or next to the action area, the non-native grasslands with interspersed aquatic

resources may provide suitable denning, foraging, and dispersal habitat for the species.

Environmental Consequences

Federal listed species and their critical habitats as well as state listed/candidate species that have the potential to occur on or near the project site and could be affected by the project include the succulent (fleshy) owl's clover, hairy Orcutt grass, San Joaquin Valley Orcutt grass, Crotch bumble bee, vernal pool fairy shrimp, California tiger salamander, and San Joaquin kit fox.

It is expected that there will be take of the tiger salamander under the California Endangered Species Act definition of take (per Section 86 of the California Fish and Game Code) because salamanders may be captured or killed during excavation of burrows or removal of upland habitat as a result of preconstruction surveys and construction activities. There could be potential take of the Swainson's hawk (individuals, eggs, or chicks) if a bird nests within the project footprint during construction-related activities. There could also be potential take of the Crotch bumble bee if the species becomes listed as endangered and underground nests are found in the project footprint during preconstruction surveys.

Succulent (Fleshy) Owl's Clover/Designated Critical Habitat for Succulent (Fleshy) Owl's Clover

This species was not found in the action area during protocol botanical surveys, so no direct effect to this species is expected from the project. However, potentially suitable habitat, which includes seasonal wetlands, seasonal wetland swales, and vernal pools, will be directly and indirectly affected during construction.

This species may be affected directly through soil disturbance associated with clearing, grubbing, grading activities, and trenching activities related to fiber optic relocation work as well as the operation of heavy equipment. Direct affects include both permanent and temporary impacts. Permanent impacts totaling 1.997 acres include the removal of potentially suitable habitat from shoulder widening, side gutter construction traffic, foot traffic, utility relocation and silt fencing. Indirect impacts totaling 1.997 may result from the introduction or spread of invasive plant species within the project footprint through soil disturbance or construction equipment or changes to hydrology.

Hairy Orcutt Grass/Designated Critical Habitat for Hairy Orcutt Grass

This species was not found in the action area during protocol botanical surveys, so no direct effect to this species is expected from the project. However, potentially suitable habitat, which includes seasonal wetlands, seasonal wetland swales, and vernal pools, will be directly and indirectly affected during construction.

This species may be affected directly through soil disturbance associated with clearing, grubbing, grading activities, and trenching activities related to fiber optic relocation work as well as the operation of heavy equipment. Direct impacts include both permanent and temporary impacts. Permanent impacts totaling 1.997 acres include the removal of potentially suitable habitat due to shoulder widening, side gutter construction, construction traffic, foot traffic, utility relocation and silt fencing. An indirect impact that could occur due to construction activities is a further reduction of available habitat due to the introduction or spread of invasive species within the project footprint or changes to hydrology.

San Joaquin Valley Orcutt Grass/Designated Critical Habitat for San Joaquin Valley Orcutt Grass

This species was not found in the action area during protocol botanical surveys, so no direct effect to this species is expected due to the project. However, potentially suitable habitat, which includes seasonal wetlands, seasonal wetland swales, and vernal pools, will be directly an indirectly affected during construction.

This species may be affected directly through soil disturbance associated with clearing, grubbing, grading activities, and trenching activities related to fiber optic relocation work as well as the operation of heavy equipment. Direct impacts include both permanent and temporary impacts. Permanent impacts totaling 1.997 acres include the removal of potentially suitable habitat from shoulder widening, side gutter construction traffic, foot traffic, utility relocation and silt fencing. Indirect impacts totaling 0.125 may result from the introduction or spread of invasive plant species within the project footprint through soil disturbance or construction equipment or changes to hydrology.

Crotch Bumble Bee

Though no documented occurrences of the Crotch bumble bee were found in the action area nor within 5 miles of the action area, potentially suitable habitat is present in the action area. Direct impact calculations include both temporary and permanent impacts. Direct impacts include 23.093 acres of non-native grassland and no indirect impacts are anticipated.

The project proposes construction activities that could potentially result in take of Crotch bumble bee individuals as defined by the California Fish and Game Code Section 86 if the species becomes listed as endangered and underground nests are found in the project footprint during preconstruction surveys. Caltrans will consult with the California Department of Fish and Wildlife to determine if a 2081 Incidental Take Permit is needed.

Vernal Pool Fairy Shrimp/Designated Critical Habitat for Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp were found in several aquatic features within the action area, and there were several occurrences of the *Branchinecta* species or non-listed fairy shrimp that can co-occur with vernal pool fairy shrimp. Because of similar habitat conditions and proximity to these occurrences, the presence of vernal pool fairy shrimp is inferred in the remaining aquatic features in the action area.

Direct impacts include both permanent and temporary impacts. Permanent impacts totaling 1.997 acres include the removal of potentially suitable habitat from shoulder widening, side gutter construction traffic, foot traffic, utility relocation and silt fencing. Indirect impacts totaling 0.125 may result from the introduction or spread of invasive plant species within the project footprint through soil disturbance or construction equipment or changes to hydrology.

California Tiger Salamander

This species was not found next to the action area during aquatic surveys but, within the action area, there is suitable upland habitat (non-native grassland) and temporary aquatic habitat that may be used for dispersal and migration. Suitable breeding sites are within a couple of miles of the project, but no suitable breeding ponds appear to be within the action area. An excavated basin within the right-of-way is considered poor quality breeding habitat but will be protected as an Environmentally Sensitive Area since this location may be used as a construction staging area. A documented occurrence within the action area was not verified because landowner access was denied, and visual observations have been inconclusive. But the vernal pools within a large seasonal swale will be avoided during construction and will be protected as an Environmentally Sensitive Area.

Table 2-5 shows the areas of impact to temporary aquatic and upland habitat that will result from the project.

Table 2-5 Impacts to California Tiger Salamander Habitat

Habitat	Direct Impacts (acres)	Indirect Impacts (acres)
Temporary Aquatic	2.147	0.125
Upland	23.093	0.000

Source: Natural Environment Study, October 2019, revised May 2020

It is expected that there will be take of the California tiger salamander under the California Endangered Species Act definition of take because salamanders may be captured or killed during excavation of burrows or removal of upland habitat because of preconstruction surveys and

construction activities. Caltrans will obtain a 2081 Incidental Take Permit from the California Department of Fish and Wildlife.

Direct impacts include both permanent and temporary impacts. Permanent impacts include removal of upland habitat from shoulder widening, side gutter construction, and removal of temporary aquatic habitat from culvert work. Temporary impacts include archeological excavation, construction traffic, foot traffic, utility relocation, and silt fencing. Indirect impacts were included based on potential effect to hydrology post construction.

Tricolored Blackbird

Tricolored blackbirds are not expected to be present during activities, so direct impacts to individual birds are not likely to occur. Potential direct impacts to this species will include the permanent and temporary loss of potentially suitable foraging habitat.

Though nesting tricolored blackbirds were not found in the action area during biological surveys, potentially suitable foraging habitat (non-native grassland) is present. Direct impacts calculations include both temporary and permanent impacts. Direct impacts to non-native grassland total 23.093 acres and no indirect impacts are anticipated.

Swainson's Hawk

No Swainson's hawk nests were found in the action area, so no direct impacts to individual animals is expected. In addition, there will be no removal of trees due to the project. However, potential direct impacts to the species will include the permanent and temporary loss of potentially suitable foraging habitat (non-native grassland). Direct impacts were calculated to include bot the permanent and temporary impacts. Direct impacts to non-native grassland total 23.093 acres and no indirect impacts are anticipated.

Construction activities within the project footprint are not expected to result in the take of the Swainson's hawk as defined by the California Fish and Game Code Section 86 with the implementation of Swainson's hawk avoidance, minimization, and/or mitigation measures. If it is determined during preconstruction surveys or construction monitoring that the project could result in the take of the Swainson's hawk, consultation with the California Department of Fish and Wildlife under Section 2081 of the California Fish and Games Code will be required.

San Joaquin Kit Fox

There have been no documented occurrences of the San Joaquin kit fox in the project area, so no individual animals are likely to be directly affected by the project. However, there is potentially suitable foraging habitat such as non-native grassland, wetlands and other waters that will be directly affected during construction.

Direct impact calculations include both permanent and temporary impacts. Direct impacts to non-native grassland and wetlands and other waters total 25.144 acres.

Although there is potential habitat for the San Joaquin kit fox this species in not expected to occur onsite therefore Caltrans has determined the project May Affect and is Not Likely to Adversely Affect this species. Caltrans initiated formal consultation with the USFWS on July 12, 2019 and anticipates receiving a Biological Opinion in support of this determination.

Fifteen species and four designated critical habitats were identified on federal species lists or were thought to have potential to occur and were considered in the Federal Endangered Species Act determinations. Caltrans is required to determine if the project will involve—and possibly affect—proposed or listed species and/or their critical habitat. The Federal Endangered Species Act determinations are shown in Table 2-6.

Table 2-6 Federal Endangered Species Act Effect Findings for Species Occurring or Known to Occur in the Action Area

Common Name	Scientific Name	Status	Effect Finding	Effect Finding for Critical Habitat
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	E	No effect	Not Applicable
San Joaquin kit fox	*Vulpes macrotis mutica*	E	May affect, not likely to adversely affect	Not Applicable
Blunt-nosed leopard lizard	*Gambelia silus*	E	No effect	Not Applicable
Giant garter snake	*Thamnophis gigas*	T	No effect	Not Applicable
California red-legged frog	*Rana draytonii*	T	No effect	Not Applicable
California tiger salamander	*Ambystoma californiense*	T	May affect, likely to adversely affect	Not Applicable
Delta smelt	*Hypomesus transpacificus*	T	No effect	Not Applicable
California Central Valley Steelhead	*Onchorynchus mykiss*	T	No effect	Not Applicable
Conservancy fairy shrimp	*Branchinecta conservatio*	E	No effect	Not Applicable
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	May affect, likely to adversely affect	May affect, likely to adversely affect
Succulent (fleshy) owl's clover	*Castilleja campestris* ssp. *succulenta*	T	May affect, likely to adversely affect	May affect, likely to adversely affect

Common Name	Scientific Name	Status	Effect Finding	Effect Finding for Critical Habitat
Greene's Tuctoria	*Tuctoria greenei*	E	No effect	Not Applicable
Hairy Orcutt grass	*Orcuttia pilosa*	E	May affect, likely to adversely affect	May affect, likely to adversely affect
Hartweg's golden sunburst	*Pseudobahia bahiifolia*	E	No effect	Not Applicable
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	T	May affect, likely to adversely affect	May affect, likely to adversely affect

Source: Ranchos Rehab Biological Assessment, July 2019

Avoidance, Minimization, and/or Mitigation Measures

Listed Protected Species and Designated Critical Habitats

Avoidance and minimization measures will reduce the potential for adverse effects to federally listed species and designated critical habitats.

The following avoidance and minimization measures will be implemented to protect the hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, Crotch bumble bee, California tiger salamander, San Joaquin kit fox, Swainson's hawk, tricolored blackbird, and vernal pool fairy shrimp as well as designated critical habitat for the hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, and vernal pool fairy shrimp in the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources.
2. Temporary silt fencing will be installed within the project footprint and delineated as "Environmentally Sensitive Areas" to protect natural communities of concern next to the project footprint from construction-related disturbance. Installation of the fencing will be coordinated with the California Department of Fish and Wildlife. The fencing will be identified in the construction plans and specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction. The proposed fence be made of a material that California tiger salamander cannot climb.
3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.

4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing temporary construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat. The emergency spill prevention plan will be kept at the project site throughout the duration of construction.
8. Best Management Practices specifically developed for the project will be followed by the contractor. These may include installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat, installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be reestablished with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.

Succulent (Fleshy) Owl's Clover, Hairy Orcutt Grass, and San Joaquin Valley Orcutt Grass

Standard avoidance and minimization measures for the succulent (fleshy) owl's clover, hairy Orcutt grass, and San Joaquin Valley Orcutt grass include conducting preconstruction surveys following Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018) the season prior to project commencement. If these species are found within the project footprint during the preconstruction botanical surveys and can be avoided, they will be protected by Environmentally Sensitive Fencing. For any individuals that cannot be

avoided, Caltrans will initiate formal consultation with the U.S. Fish and Wildlife Service to address any adverse effects to the species. Additional minimization measures may include transplanting seeds and/or plants to an off-site location close to the project.

The following avoidance and minimization measures are for designated critical habitat for the succulent (fleshy) owl's clover, hairy Orcutt grass, San Joaquin Valley Orcutt grass:

- If these plants are found during preconstruction surveys, a 25-foot no work buffer will be implemented. If a 25-foot buffer is not feasible, coordination with CDFW and U.S. Fish and Wildlife Service will be conducted. If one of the plants are found onsite and cannot be avoided, a 2081 permit from CDFW may be warranted.
- Construction activities will be restricted to the minimum amount of habitat necessary within the project footprint to ensure the least amount of disturbance to designated critical habitat.
- Wetland mats will be used in seasonal wetlands, seasonal wetland swales, and vernal pools within the project footprint where temporary impacts will occur to protect designated critical habitat.
- Access, egress, and ground-disturbing activities will be sited to avoid seasonal wetlands, seasonal wetland swales, and vernal pools, where feasible.

Crotch Bumble Bee

Avoidance and minimization measures to be implemented for the Crotch bumble bee include pre-construction surveys in the project footprint by qualified biologists to determine if Crotch bumble bees are present. If Crotch bumble bees are identified, a biologist will attempt to follow the bee to determine the location of an underground nest. Any nests will be recorded with a global positioning system device.

A "no-work" buffer of 50 feet will be established during construction, if possible, to avoid the nests. If the nest cannot be avoided by 50 feet, coordination with the California Department of Fish and Wildlife may be necessary. In addition, the Standard Special Provision for invasive species will be included in the construction contract.

Vernal Pool Fairy Shrimp/Designated Critical Habitat for Vernal Pool Fairy Shrimp

The following avoidance and minimization measures are for designated critical habitat for the vernal pool fairy shrimp:

Construction activities will be restricted to the minimum amount necessary within the project footprint to ensure the least amount of disturbance to designated critical habitat.

Wetland mats will be used in seasonal wetlands, seasonal wetland swales, and vernal pools within the project footprint where temporary impacts will occur to protect vernal pool fairy shrimp cysts (eggs).

Access, egress, and ground-disturbing activities will be sited to avoid seasonal wetlands, seasonal wetland swales, and vernal pools, where feasible.

California Tiger Salamander

The following avoidance and minimization measures are for the California tiger salamander:

1. Potentially suitable small mammal burrows evident by a suitable burrow opening may be excavated by a U.S. Fish and Wildlife Service-approved and California Department of Fish and Wildlife-approved biologist following approval of a relocation plan. Any California tiger salamanders that are discovered will be relocated to a suitable upland burrow outside of the project footprint, based on prior coordination and approval from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Excavation will only occur where Caltrans has the legal authority to do so.
2. If a 70% or greater chance of rainfall is predicted within 24 hours of project activity, a qualified biologist will survey the project site for the presence of migrating California tiger salamanders, prior to the start of construction each day that rain is forecasted.
3. No project work that could affect migrating salamanders will occur during or within 48 hours following significant rain events, defined as ¼-inch or more of rain in a 24-hour period.
4. For work conducted during the California tiger salamander migration season (November 1– March 31), a qualified biologist will survey active work areas (including access roads) in the morning, following measurable precipitation that measures less than ¼-inch. Construction may not begin until the biologist has confirmed that no California tiger salamanders are in the work area.
5. Basins or trenches greater than 6 inches deep will be covered or have an escape ramp present. These will be checked daily for trapped California tiger salamanders and other wildlife. Before they are filled, the basins or trenches will be thoroughly inspected for trapped wildlife.
6. Any pipes or culverts stored on-site must be capped to prevent entry by a California tiger salamander. Pipes must be inspected before installation to ensure that salamanders have not taken cover inside. If

any California tiger salamanders are found in pipes or culverts, the assigned Caltrans biologist will be notified.

7. Vehicle travel will be limited to established roadways unless otherwise designated. Any travel beyond the paved highway will adhere to a 20-mile-per-hour daytime speed limit and 10-mile-per-hour nighttime speed limit.

Tricolored Blackbird

Pre-construction migratory bird nest surveys will be completed by a qualified biologist between February 1 and September 30 to ensure no birds are nesting in or next to the project footprint. The surveys will be conducted no more than 10 days prior to the start of ground or vegetation disturbance.

If any nesting pairs are identified, additional avoidance and minimization measures will be implemented to avoid direct impacts. These measures include but are not limited to: Environmentally Sensitive Area fencing enclosing the nest; 100-foot “no-work” buffer surrounding the nest; and a biological monitor present during construction activities that occur in proximity to the nest. In addition, a special provision for migratory birds will be included in the construction contract to ensure that no potential nesting migratory birds are affected during construction.

Swainson’s Hawk

Protocol nesting surveys will be performed by a qualified biologist in accordance with the *Recommended Timing and Methodology for Swainson’s Hawk in California’s Central Valley* and will be completed the season prior to construction to determine if any Swainson’s hawks are nesting in the project area. Surveys will also be conducted no more than 10 days prior to the start of ground or vegetation disturbance that occurs during the breeding season from March 1 through September 15.

If any nesting pairs are identified within the project footprint, additional avoidance and minimization measures will be implemented to avoid direct impacts. These measures include but are not limited to: Environmentally Sensitive Area fencing enclosing the nest tree; 500-foot “no-work” buffer surrounding the nest; and a biological monitor present during construction activities that occur in proximity to the nest. Coordination with the California Department of Fish and Wildlife will be done following the protocol nest survey to discuss these measures and determine if a 2081 Incidental Take Permit is warranted.

In addition, a special provision for migratory birds will be included in the construction contract to ensure that no potential nesting migratory birds are affected during construction.

San Joaquin Kit Fox

The following avoidance and minimization measures are for the San Joaquin kit fox:

Pre-construction surveys will be completed no more than 30 days prior to the start of any ground-disturbing activities to determine the potential for presence of the San Joaquin kit fox within the project footprint.

If any San Joaquin kit foxes are observed during the course of project activities, they will be allowed to leave the area unharmed and on their own volition and Caltrans will notify the U.S. Fish and Wildlife Service.

Compensatory Mitigation

Direct impacts including both permanent and temporary impacts to vernal pool fairy shrimp habitat and temporary aquatic habitat and upland habitat for the California tiger salamander will be compensated for at a 2:1 ratio. Indirect impacts to vernal pool fairy shrimp habitat and to temporary aquatic habitat and upland habitat for the California tiger salamander will be compensated for at a 1:1 ratio. This action will also benefit potential habitat for the succulent (fleshy) owl's clover, hairy Orcutt grass, San Joaquin Valley Orcutt grass, Crotch bumble bee, Swainson's hawk, tricolored blackbird, and San Joaquin kit fox, as well as designated critical habitat for associated species.

Table 2-7 shows the impact areas, compensation ratios, and mitigation acreage that will be used to compensate for impacts to vernal pool fairy shrimp habitat. The direct impacts resulting from the project total 1.997 acres. And the indirect impacts total 0.125 acre. The project will need to compensate for a total of 2.122 acres for impacts to vernal pool fairy shrimp habitat.

Table 2-7 Mitigation for Impacts to Vernal Pool Fairy Shrimp Habitat

Habitat	Impact Type	Acres	Compensation Ratio	Mitigation (acres)
Pools with vernal pool fairy shrimp present	Direct	0.071	2:1	0.142
Pools with vernal pool fairy shrimp habitat present	Direct	1.778	2:1	3.556
Pools with fairy shrimp present	Direct	0.0148	2:1	0.296
Pools with vernal pool fairy shrimp present	Indirect	0.0000	1:1	0.0000
Pools with vernal pool fairy shrimp habitat present	Indirect	0.125	1:1	0.125
Pools with fairy shrimp present	Indirect	0.000	1:1	0.0000

Source: Natural Environment Study, October 2019, revised May 2020

Table 2-8 outlines the impact areas, compensation ratios, and mitigation acreage that will be used to compensate for impacts to California tiger

salamander habitat. The direct impacts resulting from the project totals 25.24 acres. The indirect impacts total 0.125 acre. The project will need to compensate for a total of 25.365 acres for impacts to the California tiger salamander.

Table 2-8 Mitigation for Impacts to California Tiger Salamander Habitat

Habitat	Impact Type	Acres	Compensation Ratio	Mitigation (acres)
Upland Refugia	Direct	23.093	2:1	46.186
Temporary Aquatic	Direct	2.147	2:1	4.294
Temporary Aquatic	Indirect	0.125	1:1	0.125

Source: Natural Environment Study, October 2019, revised May 2020

It is expected that impacts to vernal pool fairy shrimp and California tiger salamander habitat will be offset through available credits at the Caltrans Madera Pools Mitigation site. If California tiger salamander credits are not available at the Madera Pools Mitigation Site, Caltrans may purchase credits at the proposed Fenston Ranch Conservation Bank, which is currently in the process of obtaining approval from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

No compensatory mitigation is proposed for the Crotch bumble bee at this time. However, based on pre-construction survey results and listing status prior to construction, Caltrans may need to coordinate with the California Department of Fish and Wildlife regarding the need for a 2081 Incidental Take Permit and compensatory mitigation for this species.

2.3.6 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 National Environmental Policy Act analysis for a proposed project.

Affected Environment

A Natural Environment Study was prepared for the project in October 2019 and was revised in May 2020.

Several non-native species were identified in the action area. Thirty-two are listed invasive by the California Department of Food and Agriculture and California Invasive Plant Council. Table 2-9 lists the invasive species observed in the action area along with their California Department of Food and Agriculture and California Invasive Plant Council ratings.

Table 2-9 Invasive Species in the Action Area

Common Name	Scientific Name	Food and Agriculture Rating	Invasive Plant Council Rating
Slender wild oat	*Avena barbata*	–	Moderate
Wild oat	*Avena fatua*	–	Moderate
Purple false brome	*Brachypodium distachyon*	–	Moderate
Black mustard	*Brassica nigra*	–	Moderate
Ripgut brome	*Bromus diandrus*	–	Moderate
Soft brome	*Bromus hordeaceus*	–	Limited
Red brome	*Bromus madritensis ssp. rubens*	–	High
Italian thistle	*Carduus pycnocephalus*	C	Moderate
Yellow star thistle	*Centaurea solstitialis*	C	High
Bermuda grass	*Cynodon dactylon*	–	Moderate
Herb Sophia	*Descurainia Sophia*	–	Limited
Red stemmed filaree	*Erodium cicutarium*	–	Limited
Rattail sixweeks grass	*Festuca myuros*	–	Moderate
Rye grass	*Festuca perennis*	–	Moderate
Mediterranean hoary mustard	*Hirschfeldia incana*	–	Moderate
Mediterranean barley	*Hordeum marinum ssp. gussoneanum*	–	Moderate
Foxtail barley	*Hordeum murinum*	–	Moderate
Smooth cats ear	*Hypochaeris glabra*	–	Limited
Hyssop loosestrife	*Lythrum hyssopifolia*	–	Moderate
California burclover	*Medicago polymorpha*	–	Limited
Harding grass	*Phalaris aquatica*	–	Moderate
Ribwort	*Plantago lanceolate*	–	Limited
Rabbit-foot grass	*Polypogon monspeliensis*	–	Limited
Jointed charlock	*Raphanus sativus*	–	Limited
Curly dock	*Rumex crispus*	–	Limited
Russian thistle	*Salsola tragus*	C	Limited
Arabian schismus	*Schismus arabicus*	–	Limited
Milk thistle	*Silybum marianum*	–	Limited
London rocket	*Sisymbrium irio*	–	Limited
Puncture vine	*Tribulus terrestris*	–	Limited
Rose clover	*Trifolium hirtum*	–	Limited
Woolly Mullein	*Verbascum thapsus*	–	Limited

Source: Natural Environment Study, October 2019, revised May 2020

Of the species listed, the Russian thistle, Italian thistle, and yellow star thistle are the only species assigned with a rating of C by the California Department of Food and Agriculture. This rating designated these species as a pest of

known economic or environmental detriment and, if present in California, they are usually widespread. If found in the state, they are subject to regulations designed to retard spread or to suppress at the discretion of the individual county agricultural commissioner. There is no state-enforced action other than providing for pest cleanliness.

The following are invasive species ratings assigned by the California Invasive Plant Council:

High: Species with severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. They are identified as having moderate to high rates of dispersal and establishment and most are widely distributed.

Moderate: Species with substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure. They are identified as having moderate to high rates of dispersal, though their establishment is generally dependent upon disturbance. Their size and distribution may range from limited to widespread.

Limited: Species that are invasive, but their impacts are minor on a statewide level, or there was not enough information to justify a higher score. They are identified as having low to moderate rates of invasiveness. Their size and distribution are generally limited, but they may be locally persistent and problematic.

Red brome and yellow star thistle are the only invasive species in the impact area with a rating of High by the California Invasive Plant Council.

Environmental Consequences

An indirect impact that could occur due to construction activities is a further reduction of available habitat due to the introduction or spread of invasive species within the project footprint.

In compliance with the Executive Order 13112 on Invasive Species 13112, and guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as invasive. None of the species on the California list of invasive species is used by Caltrans for erosion control or landscaping. All equipment and materials will be inspected for the presence of invasive species and cleaned if necessary. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

A Standard Special Provision will be included in the construction contract that requires construction equipment and vehicles to be cleaned prior to entering and exiting the project.

Avoidance, Minimization, and/or Mitigation Measures

To prevent the further spread of these species, as well as the introduction of new invasive species, the following measures will be implemented for the project:

All areas disturbed by project construction will be reestablished with compost and a native mix hydroseed.

Additional specifications to prevent the spread of, or to eradicate, invasive species may be included in the construction contract.

2.4 Construction Impacts

2.4.1 Air Quality

Affected Environment

The project lies within the San Joaquin Valley Air Basin in Madera County. According to 40 Code of Federal Regulations Section 93.126 Table 2, the improvements for this project—pavement resurfacing and/or rehabilitation—are exempt from the requirement that a conformity determination be made. This project may proceed toward implementation even in the absence of a conforming transportation plan and Transportation Improvement Program.

This project does not interfere with the implementation of any Transportation Control Measures. All projects in areas subject to conformity must demonstrate that they do not interfere with implementation of Transportation Control Measures listed in the State Implementation Plan for the area. Transportation Control Measures are regional measures used to reduce emissions that include a broad array of strategies and can range from specific traffic control measures to the incorporation of carpool programs. If a project comes from a conforming Regional Transportation Plan and Transportation Improvement Program, the Regional Transportation Plan and Federal Transportation Improvement Program conformity analyses would have documented system-level timely implementation and non-interference with Transportation Control Measures.

Environmental Consequences

During construction, the project will generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants will be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities will vary each day as construction progresses. Dust and odors during construction could cause occasional annoyance and complaints from residences along the state right-of-way.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 14-9.02 “Air Pollution Control” and Section 10-5 “Dust Control,” require the contractor to comply with the air pollution control rules, ordinances, and regulations and statutes that apply to work performed under the contract, including those provided in Government Code Section 11017.

Chapter 3 CEQA Evaluation

3.1 Determining Significance under CEQA

The project is a joint project by the California Department of Transportation (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 California Environmental Quality Act (known as CEQA) and the National Environmental Policy Act (known as 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 U.S. 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. In addition, 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 project. Potential impact determinations include 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 are no impacts to 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 annotations to 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, will the project:

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

No Impact—There are no scenic vistas in the project area. (Visual Impact Assessment–Update, November 1, 2018)

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

No Impact—The project is not located within a state scenic highway. (Visual Impact Assessment–Update, November 1, 2018)

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?

No Impact—The project will not degrade the existing visual character or quality of public views of the site and its surroundings. The project is in a rural setting. (Visual Impact Assessment–Update, November 1, 2018)

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

No Impact—The project will not create a new source of light or glare that would affect day or nighttime views in the area. (Visual Impact Assessment–Update, November 1, 2018)

3.2.2 Agriculture and Forest Resources

CEQA Significance Determinations for Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project 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 Impact—The project will convert about 0.4 acre of Prime Farmland and 9.7 acres of Farmland of Statewide Importance to non-agricultural use. This is about 0.00425 percent of the total important farmland that is subject to the Farmland Protection Policy Act and is negligible when compared to the available farmland in the area.

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

No Impact—The project will not conflict with existing zoning for agricultural use or a Williamson Act contract. The existing zoning and Williamson Act contracts will remain in place with the project. A letter will be sent to the

Department of Conservation as notification that Caltrans proposes to acquire land that is under Williamson Act contract in accordance with Government Code Section 51291(b).

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact—There is no forest land or timberland in the project area.

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

No Impact—There is no forest land or timberland in the project area.

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 purpose of the project is to extend the life of the roadway by rehabilitating the pavement and replacing or upgrading culverts to prevent flooding. Though improvements will require minor acquisition of right-of-way from adjoining parcels, the project will not increase capacity. Therefore, the project itself will not result in further conversion of farmland to non-agricultural use. There is no forest land or timberland in the project area.

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.

Would the project:

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

No Impact—The project will not conflict with or obstruct implementation of an air quality plan. The project is exempt from all project-level conformity requirements. (Air, Noise, and Water Compliance Studies—March 14, 2019)

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?

No Impact—The project will not result in a cumulatively considerable net increase of any criteria pollutant because it is the type of project found by the

U.S. Environmental Protection Agency to be neutral from an air quality or emissions standpoint and is exempt from conformity requirements according to 40 Code of Federal Regulations Section 93.126 Table 2.

c) Expose sensitive receptors to substantial pollutant concentrations?

No Impact—The project will not expose sensitive receptors to substantial pollutant concentrations because there are no sensitive receptors in the project area. (Field visit, September 19, 2017)

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

No Impact—The project will not result in other emissions that will adversely affect a substantial number of people. The project is in a rural setting with the closest residential home being about one-sixth of a mile south of the southern end of the project.

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 Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated—The project may affect, but is not likely to adversely affect the San Joaquin kit fox. The project may affect, and is likely to adversely affect, the California tiger salamander, vernal pool fairy shrimp, hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover and designated critical habitats for the hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, and vernal pool fairy shrimp. However, avoidance, minimization, and mitigation measures will reduce the project impacts to below significance. Please see Chapter 2, Section 2.3.5 Threatened and Endangered Species.

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 Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated—The project may affect, and is likely to adversely affect designated critical habitats for the hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, and vernal pool fairy shrimp. The project will result in direct and indirect

impacts to two natural communities—northern claypan vernal pools and northern hardpan vernal pools. However, avoidance, minimization, and mitigation measures will reduce the project impacts to below significance. Please see Chapter 2, Section 2.3.5 Threatened and Endangered Species and Section 2.3.1 Natural Communities.

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—A total of 2.051 acres of jurisdictional hydrologic resources (wetlands and waters of U.S.) will be impacted by the project. A 404 Individual permit from the U.S. Army Corps of Engineers will be required prior to construction as will a Regional Water Quality Control Board 401 Water Quality Certification and California Department of Fish and Wildlife 1602 Streambed Alteration Agreement. Avoidance, minimization, and mitigation measures will reduce the project impacts to below significance. Mitigation may include any of the following: creation, restoration, or preservation, and may include the purchase of credits at an approved conservation bank. See Section 2.3.2 for a discussion on impacts related to wetlands and other waters.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant with Mitigation Incorporated—The permanent loss of temporary aquatic habitat could indirectly affect the reproductive success of California tiger salamanders through a reduction in dispersal and migration habitat within and next to the action area. However, avoidance, minimization, and mitigation measures will reduce the project impacts to below significance. See Chapter 2, Section 2.3.5 Threatened and Endangered Species.

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

No Impact—This project will not conflict with any local policies or ordinances protecting biological resources.

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—There are no conservation plans in the project area according to the U.S. Fish and Wildlife Service's Environmental Conservation online system; therefore, the project is not in conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, regional or state habitat conservation plan.

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 Section15064.5?

Less Than Significant with Mitigation Incorporated—One historic resource—the Madera Canal—and its contributing element were determined eligible for the National Register under Criterion A as contributor/character-defining features of the Central Valley Project and the project's role in the development of agriculture in the San Joaquin Valley after 1940. Caltrans proposed a Finding of No Adverse Effect with nonstandard conditions as the appropriate determination of effect on the canal and its contributing element. On January 24, 2019, Caltrans received a Finding of Effects concurrence letter from the State Historic Preservation Officer pursuant to the Section 106 Programmatic Agreement Stipulation X.B.2(a) and 36 Code of Federal Regulations 800.5(c). This finding was not in the draft environmental document because it was issued after the draft environmental document was circulated. The January 24, 2019 concurrence letter from the State Historic Preservation Officer is included in Appendix G. The implementation of avoidance and minimization measures will prevent adverse impacts to this resource during construction. For additional information, see Chapter 2, Section 2.1.2 Cultural Resources.

The bridge will be widened using precast/prestressed steel-reinforced concrete beams. Falsework will be erected as a temporary structure to hold and support fresh concrete, stabilize girders, and provide temporary support until the entire structure is self-supporting. The falsework will also prevent materials from entering the Madera Canal since no work is proposed in the Madera Canal.

The project has a "no adverse effect with nonstandard conditions" finding for the historic property—the Madera Canal and its associated features. The extension of the dual-piped culvert will have a *de minimis* impact to associated features of the Madera Canal. The features include the culvert structure and the flume that crosses over the Madera Canal. Impacts cannot be avoided using an Environmentally Sensitive Area fence; therefore, monitoring will be required for work near the Madera Canal to prevent any adverse impacts to the historic property.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to section15064.5?

Less Than Significant with Mitigation Incorporated—Site CA-MAD-1503 has the potential to yield information to contribute to the understanding of

human prehistory and is therefore eligible for listing in the National Register of Historic Places. The implementation of avoidance, minimization, and/or mitigation measures will prevent adverse impacts to this resource during construction.

Site CA-MAD-1503 is a prehistoric archaeological site that cannot be avoided because it is in the direct path of the ground-disturbing work. Caltrans has determined that the project will have an adverse effect on this prehistoric site. A Finding of Effect letter was submitted to the State Historic Preservation Officer. Because the site is eligible for inclusion on the National Register of Historic Places, especially since it is eligible for data potential, any ground disturbance within the site will constitute an adverse effect. The adverse effect is due to the ground-disturbing activities such as utility trenching and culvert work that will affect the portion of the site that makes it eligible. A Memorandum of Agreement was prepared and executed on April 17, 2020 and outlines measures to reduce impacts to less than significant with mitigation. The Memorandum of Agreement is included in Appendix H. The Memorandum of Agreement was not in the draft environmental document because it was issued after the draft document was circulated. For additional information, see Chapter 2, Section 2.1.2 Cultural Resources.

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

No Impact—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. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, which, pursuant to Public Resources Code Section 5097.98, will then notify the Most Likely Descendent. At that time, the person who discovered the remains will contact the District 6 Native American Coordinator 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 5097.98 are to be followed as applicable.

3.2.6 Energy

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?

No Impact—The project will not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.

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

No Impact—The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

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 is not in a known earthquake fault area. (California Geological Survey, Seismic Hazard Zones and Alquist-Priolo Earthquake Fault Zone Interactive Map)

ii) Strong seismic ground shaking?

No Impact—Strong seismic ground shaking is not expected since the project is not in a known earthquake fault area. The nearest named fault, the Great Valley thrust fault system, occurs about 50 miles west of project, along the Interstate 5 alignment. (U.S. Geological Survey U.S. Quaternary Faults interactive map)

iii) Seismic-related ground failure, including liquefaction?

No Impact—The project is in an area with low potential for seismically related ground failure, including liquefaction, due to the deep groundwater level and because the project area does not contain soil that is prone to liquefaction or seismic-related ground failure. (*Cal* OES, Governor's Office of Emergency Services, MyHazards interactive map)

iv) Landslides?

No Impact—The project area will not be subject to landslides because of the generally flat topography and because the project will not involve large cuts and fills or steep excavation.

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

No Impact—Construction of the project will not result in substantial soil erosion or the loss of topsoil because the project will include appropriate Best Management Practices to prevent soil erosion or loss of topsoil. Also, disturbed areas will be reestablished with compost and native hydroseed mix to promote revegetation success and provide erosion control.

The project soil erosion risk level was determined using the Individual Method–EPA Rainfall Erosion Calculator and Individual Data per Caltrans Project Risk Level Determination Guidance, July 2010. The project risk level has been determined to be Risk Level I. (Water Quality Assessment, March 14, 2019)

The soils within the study area are composed of several varieties including those in the Ramona Series, which are characterized by very well-drained alluvium with slow subsoil permeability and low potential for erosion. This soil tends to be evident in gently sloping environments, close to foothill areas, and is highly regarded as being excellent for farming. (Department of Agriculture, Soil Conservation Service)

c) Be located on a geologic unit or soil that is unstable, or that will 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—Construction of the project that mostly consists of culvert replacement and pavement rehabilitation will not cause the area to become unstable, or cause landslides, lateral spreading, or collapse, or cause subsidence. The soil in the project area is not subject to liquefaction.

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—The project area consists of soils that drain well and soils that are fine-grain clays that have the potential to absorb greater amounts of water than other soils. However, the project does not propose to construct any buildings or structures and thus will not create substantial direct or indirect risks to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact—The project will not include septic tanks or alternative waste water disposal systems; therefore, there will be no impact.

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

No Impact—The project will not directly or indirectly destroy paleontological resources because none are expected to be found within the project limits. There are no geologic features within the project limits. (Paleontological Identification Report—Revised, July 19, 2018)

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?

Less Than Significant Impact— The purpose of the project is to rehabilitate and upgrade safety features on an existing highway that is a major route to the nearby foothills and the surrounding rural areas of southeastern Madera County. Greenhouse gas emissions impacts of non-capacity-increasing projects such as this are considered less than significant under CEQA because there will be no increase in operational emissions. While some greenhouse gas emissions during the construction period will be unavoidable, with implementation of standard conditions or Best Management Practices designed to reduce or eliminate emissions as part of the project, the impact will be less than significant.

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

Less than Significant Impact—The scope of the project is consistent with the objective of the 2018 Madera County Transportation Commission Regional Transportation Plan/Sustainable Communities Strategy for maintaining, repairing and rehabilitating the existing and future regional transportation system. It does not conflict with the Madera County General Plan objectives to assess and mitigate potentially significant climate change impacts from proposed projects, or with the San Joaquin Valley Blueprint smart growth objectives. Accordingly, the impact will 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?

Less Than Significant Impact—Aerially deposited lead levels in soils in certain areas along the length of the project exceed hazardous waste thresholds. Applicable standard special provisions and/or non-standard

special provisions addressing proper handling and disposal of aerially deposited lead, asbestos-containing materials, lead-based paint, and treated wood waste will be included in the construction contract to protect construction personnel and the public. See Chapter 2, Section 2.2.2 Hazardous Waste and Materials.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact—The implementation of applicable standard special provisions and/or non-standard special provisions addressing proper handling and disposal of aerially deposited lead, asbestos-containing materials, lead-based paint, and treated wood waste will reduce this risk.

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—The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school because the nearest school is about 1 mile from 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 on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. (Initial Site Assessment, July 2, 2018)

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 will not result in a safety hazard or excessive noise for people residing or working in the project area because there is no airport within 2 miles of the project.

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

Less Than Significant Impact—State Route 41 is listed on the 2008 Madera County Community Wildfire Plan as the most likely road that will be used as an evacuation route for population centers in eastern Madera County. Traffic will be detoured onto a temporary road that will accommodate both

northbound and southbound as well as alternate one-way traffic control or reverse traffic control during construction. Impacts on an emergency response or emergency evacuation plan will be negligible with implementation of the Caltrans incident management plan described in Chapter 2, Section 2.1.3 Utilities and Emergency Services.

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 is not in a very high fire hazard severity zone, according to the California Department of Forestry and Fire Protection online map. There is the potential that construction activities could create an unintended fire. However, the project will use adequate precautions to prevent fire incidents during construction as part of the code of safe practices.

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?

No Impact—With the implementation of Best Management Practices and standard specifications, the project will not violate any water quality standards or waste discharge requirements or degrade water quality. Adherence to construction provisions and precautions described in the National Pollutant Discharge Elimination System permit, Section 404 permit, and 1602 Streambed Alteration Agreement will be upheld. (Water Quality Assessment Report, March 2018)

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—The construction or operation of the project will not impede sustainable groundwater management of the basin since the project will not use groundwater or interfere with groundwater 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;

No Impact—Soils within the study area are composed of very well-drained alluvium with slow subsoil permeability and low potential for erosion. This soil

tends to be evident in gently sloping environments, close to foothill areas. (U.S. Department of Agriculture, Soil Conservation Service)

Construction of the project will not result in substantial soil erosion or the loss of topsoil because the project will include appropriate Best Management Practices to prevent soil erosion or loss of topsoil. Also, disturbed areas will be reestablished with compost and native hydroseed mix to promote revegetation success and provide erosion control.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site;

Less Than Significant Impact—Stormwater runoff typically flows to natural depressions on the side of the road and eventually flows through cross culverts to adjacent properties or directly into the Madera Canal and Little Dry Creek. This project will moderately increase the impervious surface area, causing additional volume and velocity of flow to the side of the roadway. Placement of soil-amended side ditches is planned to infiltrate the Water Quality Volume (WQV) prior to discharge to the existing cross culverts or any water bodies within the project limits. (Stormwater Data Report, October 2019)

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less Than Significant Impact—This project will require the preparation of a Storm Water Pollution Prevention Plan. The Storm Water Pollution Prevention Plan will be developed by the contractor and submitted to the Caltrans resident engineer for review and acceptance prior to the start of construction. The Storm Water Pollution Prevention Plan incorporates the applicable temporary construction site best management practices for the project to reduce or eliminate pollutants in construction site storm water runoff. (Stormwater Data Report, October 2019)

iv) Impede or redirect flood flows?

No Impact—The project will not alter the course of any channel or alter drainage patterns within the project study area.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact—Due to the topography of the project location, it will not be possible for construction of the project to cause inundation of an area by seiche, tsunami, or mudflow.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact—The project will not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. Water quality during construction will be protected by provisions as described in the National Pollutant Discharge Elimination System, Section 404, and 1602 Permits.

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 area is in undeveloped and uncultivated land that is used mostly for cattle grazing. No residential homes or businesses will be acquired. Based on the project scope, which will rehabilitate the pavement on State Route 41, the project will not result in the division of an established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact—The project will rehabilitate an existing highway facility and will be consistent with the objectives of the Madera County Transportation Commission to maintain, repair, and rehabilitate existing and future regional transportation systems. No land use change will occur because of the project. The project will not result in a new division in an established community or conflict with any applicable habitat conservation plan or natural community conservation plan.

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—The project will not result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state. The project is not in land that is classified as a Mineral Resource Zone according to the State Geologist. (California Department of Conservation Mineral Land Classification Interactive Map, May 2018)

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—This project will not 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. The project is not within a locally important mineral resource recovery site. (Madera County 2004 General Plan)

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?

No Impact—The project is in a rural setting. Though there are several homes near post mile 8.5 that are set back at distances farther than 500 feet from State Route 41, no noise impacts that require control measures are needed. Noise control measures during construction are required only when a receptor is within 50 feet from a job site. (Air, Noise, Water Compliance Studies, April 18, 2018)

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

No Impact—The project will not generate excessive groundborne vibration or groundborne noise levels.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact—The project is not within the vicinity of a private airstrip or an airport land use plan or within 2 miles of a public airport or public use airport.

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 will not induce substantial unplanned population growth in the area, either directly or indirectly, because the project does not add capacity or extend roads or other infrastructure.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact—The project will not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The project proposes only minor acquisition of land next to the highway.

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? Police protection? Schools? Parks? Other public facilities?

No Impact—The project will rehabilitate the pavement of State Route 41 and replace culverts. The project does not propose or require the provision of new governmental facilities or physical alteration of existing governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any public service.

Impacts on response times for emergency services will be negligible with implementation of the Caltrans incident management plan described in Section 2.1.3 Utilities and Emergency Services. There will be flaggers and a pilot car that will help guide traffic. Priority will be given to emergency responders to pass through to alleviate any delays.

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—There are no existing neighborhood or regional parks or other recreational facilities in the project area.

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 project does not propose any recreational facilities or require the construction or expansion of recreational facilities.

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 project will rehabilitate an existing highway and will not conflict with any applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Rather, the rehabilitation of the highway will ensure safe operation of the highway system for motorists, bicyclists, and emergency responders. The project proposes safety features such as providing an 8-foot-wide standard shoulder width and standard clear recovery zone of 20 feet beyond the edge of the traveled way.

b) Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

No Impact—The project will not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) because it is mostly a pavement rehabilitation project, so it will not have an impact on vehicle miles traveled.

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 existing roadway profile within the project limit has no curves. The project does not propose to change the horizontal alignment of the highway. The project will incorporate safety features by widening shoulders to standard and providing the standard clear recovery zone where needed.

d) Result in inadequate emergency access?

No Impact—The project will have no long-term impacts to access. The project will be constructed with a detour road and alternate one-way traffic

control or reverse traffic control. This will involve some delays for motorists. However, emergency access will always be available.

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

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

a-b) Less Than Significant with Mitigation Incorporated—Caltrans received concurrence from the State Historic Preservation Officer on November 20, 2019 concerning the eligibility of archaeological site CA-MAD-1503 for inclusion in the National Register of Historic Places and the California Register of Historical Resources. Avoidance, minimization, and mitigation measures that are discussed in Section 2.1.4 will be implemented to prevent adverse impacts to all historical resources as defined in Public Resources Code Section 5020.1(k).

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?

No Impact—The project will not generate the need for additional wastewater treatment facilities, stormwater drainage, or natural gas. The addition of new electrical or telecommunications facilities will not cause significant environmental effects.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

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

b-e) No Impact—The project will not produce wastewater or result in substantial demands to solid waste disposal and will follow federal, state, and local statutes regarding solid waste. The solid waste created by the project will be limited to construction debris and will be managed by the contractor.

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?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

a-d) No Impact—This project is not within a very high fire hazard severity zone. (CAL FIRE online Fire Hazard Severity Zones Maps)

There is the potential that construction activities could create an unintended fire. However, the contractor will use adequate precautions and procedures

as outlined in the contract's standard specifications to prevent and extinguish fire incidents during construction.

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 with Mitigation Incorporated—The project has the potential to affect several special-status species and their associated habitat within the project area. In addition, the project will result in temporary and permanent impacts to existing natural communities, and wetlands. The project will adversely affect a prehistoric archaeological site. However, the project has incorporated multiple avoidance, minimization and/or mitigation measures that will reduce the potential for impacts or offset any expected impacts to less than significant. See Chapter 2 for additional details.

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—This project, in combination with three other projects in the vicinity—the Madera 41 South Expressway project, Austin Quarry project, and the Rio Mesa Plan—will cumulatively reduce this area of available habitat through permanent and temporary impacts, which will increase habitat fragmentation and reduce habitat connectivity. The increased noise and vibrations from construction equipment and activities and the increased density of people and associated infrastructure are expected to affect individual animals by reducing their ability to communicate with members of the same species, as well as detect and avoid predators.

Non-native grasslands and hydrologic resources in the project area currently provide suitable habitat for several special-status species that are known to occur, as well as numerous others with a potential to occur. The biological species and habitat that will be directly and indirectly affected by these projects are similar to the Ranchos Rehabilitation project, though much larger

in scale. The Austin Quarry project and Madera 41 South Expressway project have proposed compensatory mitigation to offset direct and indirect impacts. Caltrans is not aware of the exact areas of biological resources that will ultimately be impacted by the Rio Mesa Plan because the project is not at build-out and the areas of compensatory mitigation that will be used to off-set such impacts have not been determined.

The impacts of this project are relatively minor, when compared with the three projects mentioned above. However, Caltrans will implement avoidance, minimization, and mitigation measures described in Chapter 2. These include the use of Best Management Practices, worker environmental awareness trainings, pre-construction surveys, agency-coordinated species exclusion and/or relocation efforts, reseeding of disturbed soils after construction, and the completion of off-site mitigation to compensate for the reduction of species habitats. Off-site mitigation will not only preserve habitat lost by construction of the project, but will also protect habitat in perpetuity, so impacts from future development will not be possible.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact—During project construction, the project has the potential to effect human beings due to temporary increases in noise and air pollution (see Section 2.4 Construction Impacts). However, avoidance, and minimization measures will be implemented, which will reduce these potential effects.

Project construction is also expected to result in temporary and minor traffic delays that could potentially affect response time of emergency services or affect evacuation time in emergency situations. However, these effects will be minimized with implementation of the project's Transportation Management Plan, per Caltrans guidelines.

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 (also known as GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to 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 (HFCs). 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 sea levels). This analysis will include a discussion of both.

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 gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (known as NEPA) (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration 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 made 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 U.S. Code Section 6201) and Corporate Average Fuel Economy (CAFE) 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 based on 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 H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. 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. Fuel efficiency standards directly influence greenhouse gas emissions.

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 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 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 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 (LCFS) for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. The 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 gas reduction goals.

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the 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" (SCS) 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 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 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. 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 1, and the global warming potential of other gases is assessed as multiples of Carbon Dioxide. Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

Senate Bill 32, Chapter 249, 2016, codifies the 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 traveled, 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 the Air Resources Board to prepare a report that assesses progress made by each metropolitan planning organization in meeting its 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.

Executive Order N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce greenhouse gas emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This order also directs the Air Resources Board to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

Environmental Setting

The project sits along State Route 41 in a rural, agricultural area of Madera County. Land use surrounding the project area is zoned Agricultural-Exclusive and is used mainly for open-range cattle grazing. Madera County has

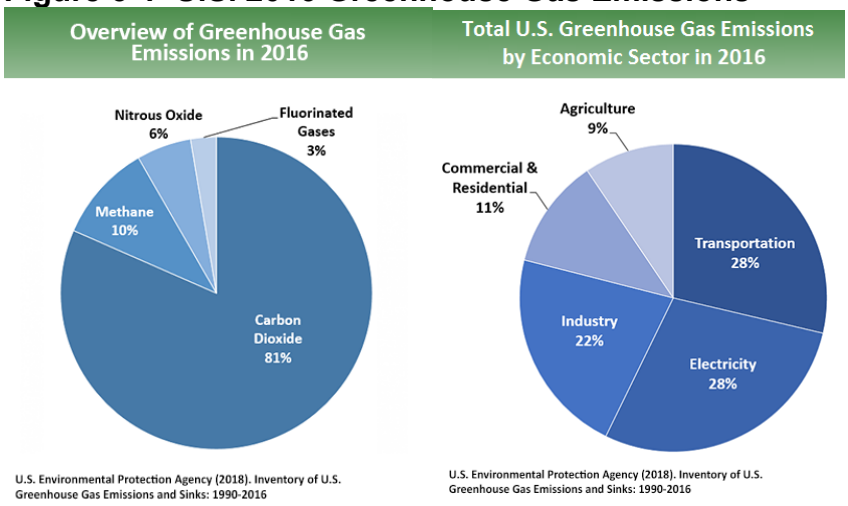
approved a quarry project involving construction of a 341-acre aggregate mine on a 671-acre site just west of State Route 41 and south of State Route 145. Also nearby, the Tesoro Viejo project of the approved Rio Mesa Area Plan currently under construction includes 5,200 residential units and mixed-use commercial and light industrial uses, along with open space, parks, schools, sewage and water treatment facilities, and a community park/storm water retention basin. The Friant-Madera Canal runs within project limits.

A greenhouse gas emissions inventory estimates the amount of greenhouse gases discharged into the atmosphere by specific sources over a period of 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 U.S. Environmental Protection Agency is responsible for documenting greenhouse gas emissions nationwide, and the Air Resources Board does so for the state, as required by Health and Safety Code Section 39607.

National Greenhouse Gas Inventory

The U.S. Environmental Protection Agnecy 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 1990–2016 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 (EPA 2018a). In 2016, greenhouse gas emissions from the transportation sector accounted for nearly 28.5% of U.S. greenhouse gas emissions. See Figure 3-1.

Figure 3-1 U.S. 2016 Greenhouse Gas Emissions



State Greenhouse Gas Inventory

The 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 gas reduction goals.

The 2019 edition of the greenhouse gas 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% of total greenhouse gases. It also found that overall statewide greenhouse gas emissions declined from 2000 to 2017 despite growth in population and state economic output (ARB 2019a). See Figures 3-2 and 3-3.

Figure 3-2 California 2017 Greenhouse Gas Emissions

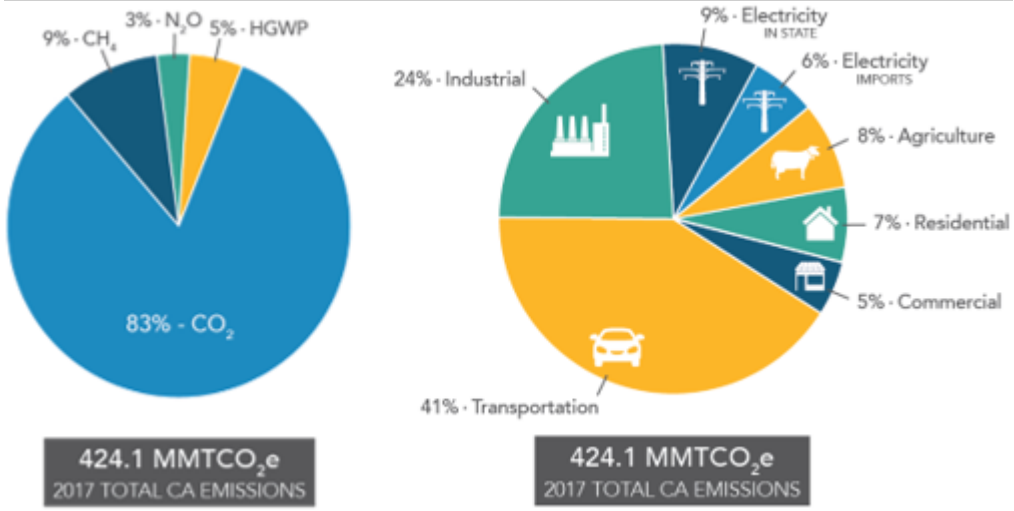
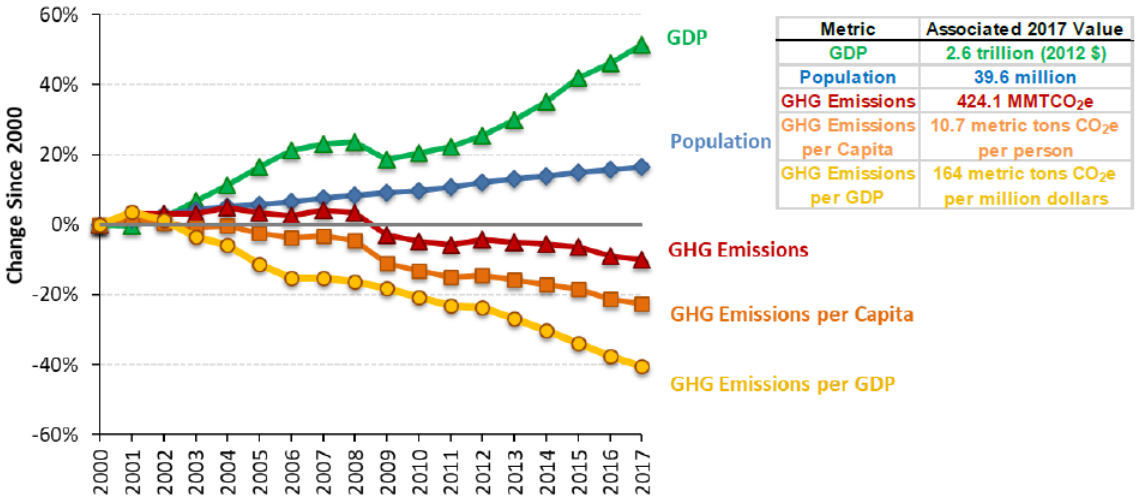


Figure 3-3 Change in California Gross Domestic Product, Population, and Greenhouse Gas Emissions since 2000 (Source: ARB 2019b)



Assembly Bill 32 required the 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 5 years. The 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 Air Resources Board sets regional targets for California's 18 Metropolitan Planning Organizations to use in their Regional Transportation Plan/Sustainable Communities Strategy to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels.

The Madera County Transportation Commission is the Metropolitan Planning Organization for the project area. The regional reduction targets for Madera County are 10% by 2020 and 16% by 2035 (ARB 2019c). The Madera County Transportation Commission 2018 Regional Transportation Plan/Sustainable Communities Strategy details how the region will reduce greenhouse gas emissions to state-mandated levels over time. The project is not required to be listed in the Regional Transportation Plan/Sustainable Communities Strategy document because it is not considered a regionally significant project. The inclusion of the Sustainable Communities Strategy is required by

Senate Bill 375 and stresses the importance of meeting greenhouse gas per capita emission reduction targets set by the California Air Resources Board.

The Madera County Transportation Commission participated in the San Joaquin Valley Blueprint Integration Project, which supported small valley cities in integrating smart growth principles into their general plans and other planning policies (Fresno Council of Governments 2009). The Madera County General Plan Air Quality Element contains objectives and policies to assess and mitigate potentially significant air quality and climate change impacts from proposed projects within the County (Madera County Planning Department 2010).

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 main greenhouse gases produced by the transportation sector are carbon dioxide, methane, nitrous oxide, 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. In addition, 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 versus San Diego Association 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

The project is a roadway rehabilitation project that will not change the existing alignment or capacity of State Route 41; no increase in vehicle miles traveled will occur as result of project implementation. While some greenhouse gas emissions during construction will be unavoidable, the project once completed will not lead to an increase in operational greenhouse gas emissions.

Construction Emissions

Construction greenhouse gas emissions will result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence will be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Carbon dioxide emissions generated from construction equipment were estimated using the Caltrans Construction Emissions Tool (CAL-CET). The estimated emissions will be 434 tons generated during 180 days over a 9-month construction period.

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 Air Resources Board emission reduction regulations. All projects also include Caltrans Standard Specification 14-9.02, Air Pollution Control, which requires contractors to comply with all air-pollution control rules, regulations, ordinances, and statutes, including those of the San Joaquin Valley Air Pollution Control District.

The project will also implement Caltrans standardized measures (such as construction Best Management Practices) that apply to most or all Caltrans projects. Certain common regulations, such as equipment idling restrictions and development and implementation of a traffic control plan that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

CEQA Conclusion

While the project will result in greenhouse gas emissions during construction, it is expected that the project will not result in any increase in operational greenhouse gas emissions. The 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 will 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.

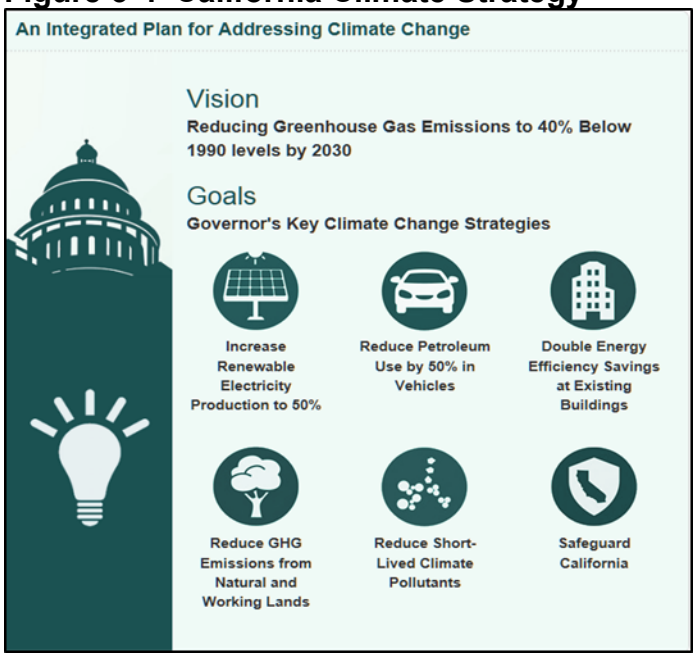
Greenhouse Gas Reduction Strategies

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 Jr. 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.

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 (VMT). 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).

Figure 3-4 California Climate Strategy



In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on

forest lands, 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 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 a new interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are under way at Caltrans to help meet these targets.

California Transportation Plan (CTP 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 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, the 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

The Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce 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 staff will enhance the environmental training provided for contractor staff by adding a module on greenhouse gas reduction strategies when practicable, including limiting equipment idling time as much as possible.

The contractor will be required to:

- Reduce construction waste and maximize the use of recycled materials wherever possible.
- Incorporate measures to reduce the use of potable water.
- Seek to operate construction equipment with improved fuel efficiency by:
    - Properly tuning and maintaining equipment.
    - Limiting equipment idling time.
    - Using the right-size equipment for the job.
- Caltrans Standard Specification 14-9.02, Air Pollution Control requires contractors to comply with all air-pollution control rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

- In disturbed areas, use compost and native hydroseed mix to promote revegetation success and provide erosion control, as well as conserve the physical and biological features for federally listed plants following construction. Vegetation helps sequester carbon dioxide.

Measures to reduce construction-related greenhouse gas emissions may include the following:

- Using alternative fuels such as renewable diesel for construction equipment.
- Limiting idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment.
- Scheduling truck trips outside of peak morning and evening commute hours.
- Reducing construction waste and maximizing the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings).
- Using equipment with new technologies.
- Conducting Construction Environmental Training: supplement existing training with information regarding methods to reduce greenhouse gas emissions related to construction.
- Encouraging the use of alternative bridge construction (ABC) (reduce construction windows, use of more precast elements that in turn reduce need for additional falsework, forms, bracing, etc.)
- Salvaging large removed trees for lumber or similar on-site beneficial uses other than standard wood-chipping (e.g., use in roadside landscape projects or green infrastructure components).
- Doing on-site recycling of existing project features such as metal beam guardrail, light standards, sub-base granular material, or native material that meets Caltrans specifications for incorporation into new work.
- Lowering the rolling resistance of highway surfaces as much as possible while still maintaining design and safety standards.
- Providing Earthwork Balance: reduce the need for transport of earthen materials by balancing cut-and-fill quantities.
- Reducing the need for electric lighting by using ultra-reflective sign materials that are illuminated by headlights.

Adaptation Strategies

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 variability 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 National Environmental Policy Act assignment, Caltrans is obligated to comply with all applicable federal environmental laws and Federal Highway Administration National Environmental Policy Act regulations, policies, and guidance.

The U.S. Global Change Research Program delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S. Code Chapter 56A section 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The U.S. 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 DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (U.S. DOT 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 latest effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- Adaptive capacity is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- Exposure is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- Resilience is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- Sensitivity is the level to which a species, natural system, or community, government, etc., will 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* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017, and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

Executive Order B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This 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 expected 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 provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Analysis

Sea Level Rise

The project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Floodplains Analysis

The project area is not in a floodplain. The project scope includes widening the Madera Canal bridge across the Madera Canal. Most climate scientists predict increased frequency and intensity of rain events related to global climate change, though how frequent and intense such storms are likely to be is unclear. However, the Caltrans District 6 Climate Vulnerability Assessment indicates a less than 5% increase in 100-year storm precipitation in the project area through 2085 (Caltrans 2018: 31–33).

Friant Dam controls releases from Millerton Lake to the Madera Canal for irrigation and flood control (Bureau of Reclamation 2006), so canal volume is not greatly affected by rainfall. Stormwater runoff typically flows to roadside ditches or depressions through cross-culverts to adjacent properties or directly into the Madera Canal and Little Dry Creek. While the project will moderately increase impervious surface area and runoff, placement of soil-amended side ditches is intended to help additional water volume infiltrate the ground prior to discharge to cross-culverts or water bodies. Therefore, the project will not likely be adversely affected by changes in rainfall patterns.

Wildfire

The project is not in a very high fire hazard severity zone (California Department of Forestry and Fire Protection, 2007). The project is about 0.70 mile west of the westernmost boundary of the nearest fire hazard severity zone. Construction activities could create an unintended fire in roadside

vegetation; however, precautions and construction best practices will be implemented to prevent fire during construction.

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Chapter 4 Coordination & Comment Letters and Responses

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.

This chapter summarizes the results of the Department's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

The following paragraph has been revised since the draft environmental document was circulated.

Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination, public notices and Project Development Team meetings. On the day the Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment and Section 4(f) Evaluation was released, a public notice appeared in the Madera Tribune newspaper. The public notice included an opportunity for a public hearing and dates of the public comment period (January 25, 2020 to February 24, 2020). No requests were received.

In addition to the public notice appearing in the Madera Tribune newspaper, Notice of Availability letters were sent to local, state and federal agencies along with property owners as shown on the distribution list in Chapter 6. The Notice of Availability letters included a link to the environmental document along with locations where hard copies of the document could be found. Comments received during the public comment period are included

Tribal Consultation - Tribal consultation was initiated for the project for the State Route 41 South Expressway Project (EA 06-0R040) prior to EA 06-0R040 being broken into two projects. The Native American Heritage Commission (NAHC) was contacted in November 2014 and responded to the request for information on December 19, 2014. Consultation with Native American tribes was initiated through written correspondence by David Lanner, Professional Qualified Staff, Lead Archeological Surveyor on March 26th, 2016. Responses were received by California Valley Miwok Tribe, North Fork Rancheria of Mono Indians, and Picayune Rancheria of Chukchansi Indians in May, March, and February of 2016, respectively. Another round of consultation letters were sent out by Brian Wickstrom, PQS Principal

Investigator (prehistoric archaeology), on October 1, 2016. Reponses were received from Table Mountain Rancheria and Picayune Rancheria of Chukchansi Indians in September and October of 2016, respectively.

In March 2019 an Extended Phase I was undertaken by Caltrans and a Caltrans consultant. The consultant consulted with three local tribes who provided monitors for the field investigation. An update letter concerning the Extended Phase I for the project, was sent on May 24, 2019, but no responses were received. Subsequently, a letter report concerning the Extended Phase I was sent to the tribes, but no response was received.

During the review period for the Historic Properties Survey Report, which was finished in May 2019, a reminder letter for comments on the documentation for the project was sent to tribes in June 2019. At this time consultation with the State Historic Preservation Officer was initiated with the submission of the first Historic Properties Survey Report for the project on June 3, 2019. Comments were received from State Historic Preservation Officer on the first Historic Properties Survey Report for the project on July 3, 2019. Caltrans began addressing the comments at that time.

In August 2019 Table Mountain Rancheria responded to the request for comments. Caltrans responded to their concerns in August 2019. On August 30th, 2019 an email was sent to tribes updating them concerning the eligibility determination of one of the archaeological sites in the project. Multiple emails were sent requesting input from the tribes. Picayune Rancheria confirmed via phone they had received the requests and were considering them. An email was submitted to the tribes on September 16, 2019 asking for their comments by September 20, 2019. No additional comments were received. An additional update email was sent to the tribes concerning the eligibility evaluation of the project.

On October 21, 2019 the second Historic Properties Survey Report for the project was submitted to State Historic Preservation Officer. A response letter was received from State Historic Preservation Officer on November 20, 2019 concurring with the overall conclusions of the Historic Properties Survey Report and eligibility determination, though with some alternate view. A response letter was sent by Caltrans to State Historic Preservation Officer on December 11, 2019 concurring with their alternative opinion.

On January 8, 2020 a letter notification was sent to the four tribes who had consistently provided guidance and assistance through the project documentation process to inform them of the impending Memorandum of Understanding and a request for the tribes intent to be concurring parties. On January 16, 2020, another email was sent to the same effect. On January 30, 2020 North Fork Rancheria confirmed their interest in being a concurring part. An email was sent on February 5, 2020 to confirm that the North Fork Rancheria and Picayune Rancheria were interested in being signatories and

to request their comments on the various technical documents. Picayune Rancheria responded on February 6, 2020 indicating they were waiting for confirmation from their Council to continue the Memorandum of Agreement process as signatories.

A Memorandum of Agreement was subsequently submitted to State Historic Preservation Officer on February 20, 2020 by the Cultural Studies Office at Caltrans Headquarters. Some communications were received from Picayune Rancheria and North Fork Rancheria in March 2020. On April 17, 2020 concurrence was received from State Historic Preservation Officer on the Memorandum of Agreement.

Consultation with the Native American tribes involved with this project is ongoing for construction monitoring and Phase III investigations.

U. S. Fish and Wildlife Service - November 18, 2003: Caltrans biologist, David Armes, received an email approval from Karen Harvey, U.S. Fish and Wildlife Service Biologist/Caltrans Liaison to conduct wet season vernal pool branchiopod surveys for the project, 06-47720.

October 24, 2004: Caltrans biologist, Tamra Nunes, received an email approval from Shannon Holbrook, U.S. Fish and Wildlife Service Biologist/Caltrans Liaison to conduct wet season vernal pool branchiopod surveys for the project, 06-0C720.

September 15, 2014: Caltrans biologist, Kristin Baker, obtained a species list for the project quadrangles from the U.S. Fish and Wildlife Service Sacramento Fish and Wildlife Office.

November 14, 2014: Ms. Nunes, submitted a request for approval, via email, to U.S. Fish and Wildlife Service Biologist/Recovery Permit Coordinator, David Kelly, to conduct wet season surveys for vernal pool branchiopods for the Madera 41 South Expressway project.

November 18, 2014: Ms. Nunes had a telephone conversation with Ms. Schofield, U.S. Fish and Wildlife Service Contract Biologist/Caltrans Liaison, to discuss the wet season vernal pool branchiopod surveys that would occur in areas of designated Critical Habitat and what survey methods would be appropriate for completing the surveys non-invasively while still receiving approval from the U.S. Fish and Wildlife Service for the survey effort for the Madera 41 South Expressway project.

December 2, 2014: Ms. Nunes submitted a revised request letter to Mr. Kelly, for authorization to conduct protocol and “non-invasive” wet season vernal pool branchiopod surveys in the action area. The “non-invasive” survey methodology would constitute not sampling any aquatic features located in areas of designated Critical Habitat for the vernal pool fairy shrimp, with

presence assumed for these locations for the Madera 41 South Expressway project.

December 3, 2014: Mr. Kelly provided Ms. Nunes with approval, via email, to conduct wet season vernal pool branchiopod surveys in the action area, based on the condition that aquatic features in Critical Habitat for the vernal pool fairy shrimp would not be sampled for the Madera 41 South Expressway project.

July 3, 2015: Ms. Nunes submitted a 90-day report via email to Mr. Kelly for the wet season vernal pool branchiopod surveys conducted for the Madera 41 South Expressway Project.

May 19, 2017: Ms. Nunes spoke with Clay DeLong, ECORP Consulting Biologist, regarding the results of Caltrans' succulent (fleshy) owl's clover survey in 2017. We discussed site conditions and potential rationale for the species absence based on his positive findings east of the Madera Pools Mitigation Site. Based on the project site conditions and his professional experience with the species, he concluded that if the plant was not observed during the 2017 wet season, it was likely absent from the study area.

November 17, 2015: Ms. Nunes submitted a request for approval, via email, to USFWS Biologist/Recovery Permit Coordinator, Sarah Markegard, to conduct wet season surveys for vernal pool branchiopods for the Madera 41 South Expressway project.

November 20, 2015: Ms. Nunes received an email approval to conduct wet season surveys for the Madera 41 South Expressway project from Ms. Markegard.

June 29, 2016: Ms. Nunes submitted a 90-day report via email to Ms. Markgard for the wet season vernal pool branchiopod surveys conducted for the Madera 41 South Expressway Project.

March 22, 2018: Dena Gonzalez, Caltrans Biology Branch Chief, spoke with Jen Schofield, Contract biologist/Caltrans liaison, regarding a California tiger salamander nocturnal survey. Ms. Schofield provided verbal approval for the survey to be conducted in the project area provided authorized surveyor, Tamra Nunes, was present.

April 9, 2018: Ms. Nunes submitted a request for approval, to Sarah Markegard, Biologist/Recovery Permit Coordinator, to conduct California tiger salamander aquatic larval surveys.

April 12, 2018: Ms. Markegard provided Ms. Nunes with approval for conducting California tiger salamander aquatic larval surveys.

June 16, 2018: Ms. Nunes met with Steven Hulbert, California Department of Fish and Wildlife biologist/Caltrans liaison, at the project site to discuss state listed species in the project area, potential need for 2081 Incidental Take Permit, habitat impacts, and potential 1600 jurisdictional areas.

July 12, 2018: Mr. Hulbert provided additional information about 1600 jurisdictional areas in the project area and the location of a California tiger salamander pond along the Madera Canal northwest of the project site.

September 6, 2018: Ms. Nunes and Ms. Gonzalez hosted a conference call with Ms. Schofield, to discuss the project regarding Section 7 Endangered Species Act Consultation. A site visit was scheduled later in the month, so Ms. Schofield could visit the project site and observe the habitat conditions present.

September 27, 2018: Ms. Nunes and Ms. Gonzalez met with Ms. Schofield at the project site to discuss species and habitat impacts, and mitigation. The group additionally visited the proposed Fenston Ranch Conservation Bank and Madera Pools Mitigation Site.

November 2, 2018: Updated species lists were obtained from the NOAA Fisheries online species list mapper website and the USFWS Information for Planning and Consultation website.

November 14, 2018: Ms. Nunes submitted an electronic copy of the 90-day report for California tiger salamander aquatic larval surveys to Ms. Markegard.

February 6, 2019: Ms. Nunes spoke with Jeff Alvarez, founder of the Wildlife Project and biologist with extensive California tiger salamander experience, regarding silt fencing as a salamander barrier during construction and small mammal burrow collapse methods and timing prior to construction.

April 2, 2019: Ms. Nunes spoke to Mr. Doug Welch, General Manager at Madera-Chowchilla Water and Power Authority, regarding crossing structures along the Madera. Mr. Welch sent electronic copies of Madera Canal structures and maps to Ms. Nunes.

April 3, 2019: Ms. Nunes received an email from Adam Wimberley, Caltrans Maintenance Supervisor, regarding maintenance activities within the existing right-of-way within the project limits.

April 3, 2019: Ms. Nunes submitted an Aquatic Resources Delineation Report to Marc Fugler, U.S. Army Corps of Engineers Project Manager, Sacramento Office.

April 18, 2019: Ms. Nunes received an email from Mr. Welch regarding flap gates and inlet/outlet drains between State Route 41 and State Route 145.

May 1, 2019: Updated species lists were obtained from the NOAA Fisheries online species list mapper website and the U.S. Fish and Wildlife Service Information for Planning and Consultation website.

May 10, 2019: Ms. Nunes spoke to Mike Urrutia, property owner/rancher of parcels west of State Route 41, regarding firebreak maintenance and cattle practices on the property.

June 3, 2019: Ms. Nunes received an email from Mr. Welch regarding vegetation control along the Madera Canal.

June 14, 2019: Ms. Nunes, Ms. Gonzalez, and Mr. Fugler conducted a site visit to verify aquatic features delineated in the action area.

July 12, 2019: Ms. Nunes submitted a Biological Assessment to the U.S. Fish and Wildlife Service to initiate formal consultation under Section 7 of the Endangered Species Act for federally listed species and designated Critical Habitat that have the potential to occur, or that do occur within the project action area.

July 19, 2019: Ms. Nunes submitted a revised package for a Preliminary Jurisdictional Determination to Mr. Fugler.

August 9, 2019: Updated species lists were obtained from the NOAA Fisheries online species list mapper website and the U.S. Fish and Wildlife Service Information for Planning and Consultation website.

January 23, 2020: Caltrans received comments from U.S. Fish and Wildlife Service on the Biological Assessment that was received in July.

February 13, 2020: Teleconference with Ms. Schofield of U.S. Fish and Wildlife Service and Ms. Nunes and Ms. Gonzalez of Caltrans to discuss comments and proposed changes.

February 21, 2020: Ms. Gonzalez submitted responses to the U.S. Fish and Wildlife Service comments that were received on January 23 and informed U.S. Fish and Wildlife Service that we were still working on the revised mapping.

March 16, 2020: Ms. Schofield from U.S. Fish and Wildlife Service emailed Caltrans inquiring about the outstanding revised mapping.

March 17, 2020: Ms. Gonzalez responded to U.S. Fish and Wildlife Service liaison Ms. Schofield and asked if she was still able to work on the draft Biological Opinion while waiting for the revised maps, Ms. Schofield responded that she was still actively working on the Biological Opinion but would soon be at a point where she would need the final numbers and maps

to complete the draft. Ms. Schofield also requested example maps of the aquatic impacts.

March 18, 2020: Ms. Gonzalez provide revised mapping for California tiger salamander and vernal pool fairy shrimp to U.S. Fish and Wildlife Service.

March 26, 2020: Ms. Schofield responded with questions on the proposed impacts to aquatic habitat.

April 9, 2020: Ms. Gonzalez provided revised mapping based on U.S. Fish and Wildlife Service comments.

April 15, 2020: Ms. Gonzalez sent email to U.S. Fish and Wildlife Service asking if they had a chance to look at the revised maps. Ms. Schofield responded that the revision was more in line of what they wanted to see but still had questions about certain features.

April 16, 2020: Ms. Nunes and Ms. Gonzalez of Caltrans had a teleconference with Ms. Schofield of U.S. Fish and Wildlife Service to discuss the additional concerns regarding the aquatic impacts.

April 20, 2020: Ms. Gonzalez submitted revised mapping to Ms. Schofield based on the April 16th discussions with U.S. Fish and Wildlife Service.

April 21, 2020-May 6, 202: Ongoing coordination with Ms. Schofield and Ms. Gonzalez to finalize the impacts to aquatic features for vernal pool fairy shrimp, California tiger salamander, succulent owls clover, hairy orcutt grass and San Joaquin orcutt grass.

Comment Letter A: Property Owner Elizabeth Cardoza

February 22, 2020

Dear Mr. Putler

This letter is in response to your report submitted for the Madera Ranchos Hwy 41 project. In your report you state that there was an environmental study done on our property. In fact, there has not been any current studies completed since the early 90's, and we know that you have completed an accurate EIR study on the west side of the road. The EIR for this project is not complete and correct because of the lack of studies and inaccuracies of the surrounding properties.

We believe at this time there is no real reason to acquire more right of way land because you stated in your report all you must have is an 8 ft shoulder along Hwy 41. As a matter fact from the canal North to Hwy 145 you have more than a 8 ft shoulder The request to acquire 20 ft of more right of way on both sides is not necessary to fix the problems with the road conditions that you reference in your report.

In our opinion the Department of Transportation has not honestly taken in the fact that there will be a large fiscal impact by acquiring more right of way on the east side of Hwy 41. We believe the fiscal impact is greater than the one reported in your draft environmental document and so deemed inaccurate. Acquiring a right of way on the west side we believe would be more logical on many levels especially fiscal impact. The west side of Hwy 41 has more open space and will not affect any business or residence by doing so. The owner of the property to the west has demonstrated his standpoint of not caring what happens to his land by allowing a rock quarry to come in and destroy his cattle ground.

In conclusion we request you reconsider your proposal and if acquiring more right of way is not avoidable you do so all on the west side of Hwy 41 and not on the east side. We request that you reply to us regarding all of our points of concern with your proposal. We look forward to hearing from you.

Sincerely,

Elizabeth Cardoza

Responses to Comment Letter A: Elizabeth Cardoza

Comment A-1: This letter is in response to your report submitted for the Madera Ranchos Hwy 41 project. In your report you state that there was an environmental study done on our property. In fact, there has not been any current studies completed since the early 90's, and we know that you have

completed an accurate EIR study on the west side of the road. The EIR for this project is not complete and correct because of the lack of studies and inaccuracies of the surrounding properties.

Response: Thank you for your comments on the environmental document. There were two topics of concern, biological resources and cultural resources, on your properties east of the project.

Biological Resources

Although we were not granted access to your property on the east side of the project, biological resources were still evaluated, and surveys were conducted from the roadway as needed for the additional right of way. The findings were identified in the project Natural Environment Study dated October 2019, revised May 2020, and are included in both the draft and final environmental documents.

Cultural Resources

Although we were not granted access to your property on the east side of the project, visual inspections of the area beyond the current right-of-way, existing geoarchaeological data and documentation of previous surveys indicated that no additional studies were needed for the additional right-of-way. The findings of the Historic Property Survey Report dated October 2019 are included in both the draft and final environmental documents.

Comment A-2: We believe at this time there is no real reason to acquire more right of way land because you stated in your report all you must have is an 8 ft shoulder along Hwy 41. As a matter fact from the canal North to Hwy 145 you have more than a 8 ft shoulder The request to acquire 20 ft of more right of way on both sides is not necessary to fix the problems with the road conditions that you reference in your report.

Response: The highway design will widen the roadway symmetrically from the centerline on both the east and west sides. The additional right of way is needed on each side to meet the highway design standards for shoulder widening requirements, clear recovery zone requirements, drainage requirements, storm water treatment requirements, and utility company easement requirements. Hydraulics requires the highway to be raised in elevation to correct the flooding problem which also requires additional right of way due to side slopes. Symmetrical widening of the highway also has the least impacts to sensitive wetlands.

Comment A-3: In our opinion the Department of Transportation has not honestly taken in the fact that there will be a large fiscal impact by acquiring more right of way on the east side of Hwy 41. We believe the fiscal impact is greater than the one reported in your draft environmental document and so

deemed inaccurate. Acquiring a right of way on the west side we believe would be more logical on many levels especially fiscal impact. The west side of Hwy 41 has more open space and will not affect any business or residence by doing so. The owner of the property to the west has demonstrated his standpoint of not caring what happens to his land by allowing a rock quarry to come in and destroy his cattle ground.

Response: The highway will be widened symmetrically from the centerline of the roadway. There will be a total of 140 feet of right of way, or 70 feet from centerline, needed on each side of the highway. The lands on both sides of the highway are zoned AE, Agricultural-Exclusive. Caltrans is responsible for insuring that property owners receive fair market value as if you sold your property privately in the open market. Caltrans will assure that you do not have to sell your property for less than its fair market value. Since only a portion of your property is needed for the project, every reasonable effort will be made to ensure that the remainder of property does not suffer damages. The total payment by Caltrans will be for the property that Caltrans actually purchases and for any loss in market value to the remaining property. California law provides that the owner shall receive a copy of the appraisal upon which the Caltrans offer is based.

At the time the offer is made to purchase your property, you may obtain your own appraisal and Caltrans will reimburse you up to $5,000 for the actual, reasonable costs of obtaining an independent appraisal. A licensed State appraiser must perform your appraisal. A Caltrans Right of Way Agent will provide more information concerning this reimbursement at the time of the offer.

Comment Letter B: California Department of Fish and Wildlife

February 20, 2020

Jeff Sorensen

California Department of Transportation, District 6

855 M Street, Suite 200

Fresno, California 93721

Subject: Ranchos Rehabilitation Project (Project) Mitigated Negative Declaration (MND) State Clearinghouse Number 2020019068

Dear Mr. Sorensen:

The California Department of Fish and Wildlife (CDFW) received a Mitigated Negative Declaration prepared by the California Department of Transportation (Caltrans) for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statue for all the people of the State (Fish and Game Code, Section 711.7, subdivision (a) and 1802; Pub. Resources Code, Section 21070; CEQA Guidelines Section 15386, subdivision (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., Section 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, Section 21069; CEQA Guidelines, Section 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & Game Code, Section 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered

Species Act (CESA) (Fish & Game Code, Section 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Water Pollution: Pursuant to Fish and Game Code section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without mitigation measures implementation of the Project could result in pollution of Waters of the State from storm water runoff or construction¬ related erosion. Potential impacts to the wildlife resources that utilize the streams and wetlands include the following: increased sediment input from road or structure runoff; and toxic runoff associated with construction activities and Project implementation. The Regional Water Quality Control Board and U.S. Army Corps of Engineers also have jurisdiction regarding discharge and pollution to Waters of the State.

As a responsible agency, CDFW is responsible for providing, as available, biological expertise during public agency environmental review efforts (e.g., CEQA), focusing specifically on project activities that have the potential to adversely affect fish and wildlife resources. CDFW provides recommendations to identify potential impacts and possible measures to avoid or reduce those impacts.

PROJECT DESCRIPTION SUMMARY

Proponent: Caltrans

Objective: The Project proposes to remove then reconstruct a 2.9-mile segment of State Route 41. The Project will involve bridge widening (over the Madera Canal), extending existing culverts, installing additional culverts, relocating utilities, and modifying the roadway profile.

Location: Reportedly, the 172.28-acre Project Action Area exists as a 2.9-mile long corridor including the State Route 41 right-of-way (and adjoining natural lands) where it exists between Avenue 15 and State Route 145 in Madera County.

Timeframe: Unspecified.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments to assist Caltrans in adequately identifying and/or sufficiently reducing to less-than-significant the Project's significant, or potentially significant, direct and indirect impacts to fish and wildlife (biological) resources.

Editorial comments or other suggestions may also be included to improve the document.

Currently, the MND indicates that the Project's impacts will be less than significant with the implementation of mitigation measures described in the MND. However, as currently drafted, it is unclear whether the mitigation measures described will be sufficient in reducing impacts to a level that is less than significant. In particular, CDFW is concerned regarding the adequacy of avoidance and mitigation measures for special¬ status species including the State threatened Swainson's hawk (Buteo swainsoni) and tricolored blackbird (Agelaius tricolor), the State and federally threatened California tiger salamander (Ambystoma californiense), the State Species of Special Concern burrowing owl (Athene cunicularia), and the following State listed plants: the State endangered and federally threatened succulent owl's clover (Castilleja campestris ssp. succulenta) and San Joaquin Valley Orcutt grass (Orcuttia inaequalis); and the State and federally endangered hairy Orcutt grass (Orcuttia pilosa).

If significant environmental impacts will occur as a result of Project implementation and are not mitigated to less than significant levels, an MND would not be appropriate. Further, when an MND is prepared, mitigation measures must be specific, clearly defined, and cannot be deferred to a future time. Preparation of a species-specific mitigation plan following determination that a project activity will have a direct impact on special-status plants and wildlife species would be deferring mitigation to a future time. When an Environmental Impact Review (EIR) is prepared, the specifics of mitigation measures may be deferred, provided the lead agency commits to mitigation and establishes performance standards for implementation. Regardless of whether an MND or EIR is prepared, CDFW recommends that the CEQA document provide quantifiable and enforceable measures, as needed, that will reduce impacts to less than significant levels.

Environmental Setting and Related Impact

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the United States Fish and Wildlife Service (USFWS)?

COMMENT 1: California Tiger Salamander (CTS)

Issue: Generally, CTS have the potential to occur at and in the vicinity of Project Action Area (CDFW 2019). Aerial photographs show that the 490-foot wide Project Action Area encompasses upland refugia and vernal pool breeding habitat for CTS. Accordingly, the MND states Caltrans is assuming presence of this species and will be acquiring a State Incidental Take Permit (ITP) pursuant to Fish and Game Code section 281(b). While the MND, as currently drafted, does include avoidance and minimization measures specific to CTS, CDFW suggests edits to those measures to reflect the measures which will be required under the ITP to meet CDFW's permit issuance criteria.

Specific Impacts: Depending on the small mammal species which constructs a burrow, its chambers can extend up to 50 feet from the burrow opening. Therefore, while a measure involving the salvage and relocation of individual CTS from within suitable burrows evidenced by openings within the Action Area is proposed in the MND, CDFW will additionally require salvage and relocation of individual CTS from burrows evidenced by openings at and beyond the Action Area.

Additionally, the MND includes a measure involving the installation of Environmental Sensitive Area (ESA) fencing at the Action Area boundaries for the purposes of retarding Project-related siltation from the Action Area to the natural lands beyond the Action Area, and to delimit the Action Area and prevent Project-related activities beyond its boundaries. This ESA fencing will be installed prior to the planned CTS salvage and relocation work at the Project Action Area. CDFW recommends that this ESA fence (or another barrier) be installed immediately after the salvage and relocation work, and in consultation with CDFW for the additional purpose of excluding CTS from the Project Action Area during the breeding/dispersion season.

Finally, in the MND, Caltrans anticipates mitigating for impacts to CTS breeding habitat at a ratio of 0.5:1, and CTS upland habitat at a ratio of 3:1. Caltrans should understand that CDFW does not use predetermined ratios when determining adequacy under the fully mitigate standard, but will likely require more than 0.5 acre of breeding habitat to mitigate for permanent impacts to one acre of the same under the ITP.

Evidence impact would be significant: Up to 75% of historic CTS habitat ·has been lost to development (Searcy et al. 2013). Loss, degradation, and fragmentation of habitat are the primary threats to CTS. Contaminants and vehicle strikes are also sources of mortality for the species (CDFW 2015, USFWS 2017). The Project Action Area is within the range of CTS, encompasses known occupied areas of CTS, and is surrounded by suitable breeding and aestivation habitat (i.e. grasslands interspersed with burrows and vernal pools). CTS have been determined to be physiologically capable of dispersing up to approximately 1.5 miles from seasonally flooded wetlands (Searcy and Shaffer 2011) and have been documented near the Project Action Area (CDFW 2019). Given the presence of suitable habitat at and surrounding the Project Action Area, Project activities have the potential to significantly impact local populations of CTS.

Recommended Potentially Feasible Avoidance and Mitigation Measure(s) Because suitable habitat for CTS is present at and near the Project Action Area, CDFW recommends the following edits to the Mitigation Measures for CTS, and that these edited measures be made conditions of approval for the Project.

Recommended Mitigation Measure 1: Recommended Edit to the first item in a bulleted list of Avoidance and Mitigation Measures for CTS on page 82 of the MND. Currently, the first measure in the bulleted list of measures for CTS indicates, in part, that "Prior to utility relocation efforts and after the installation of temporary silt fencing, potentially suitable small mammal burrows may be excavated ... following approval of a relocation plan." CDFW recommends Caltrans be clear that the burrows

which will be excavated will be those evidenced by suitable burrow openings located within the Action Area and those located outside but within 50 feet of the Action Area. Further, Caltrans should be clear that the fencing will be installed immediately after the relocation effort, not prior to. Finally, CDFW recommends that if the temporary silt fencing (or another barrier) is intended to function to exclude individual CTS from entering the Project Work Area during the breeding/dispersion season, it must be constructed to incorporate turn arounds be of a material CTS cannot climb, and that it is the subject of routine monitoring and maintenance.

Recommended Mitigation Measure 2: Recommended Edits to Compensatory Mitigation Narrative for Impacts to CTS on page 84 of the MND. Currently, Caltrans proposes to mitigate for impacts to upland habitat for CTS at a 3:1 ratio, and for impacts to aquatic habitat for CTS at a ratio of 0.5:1. While CDFW does not use pre-determined ratios when determining adequacy under the CESA fully mitigate standard, it is very likely more than 0.5 acres of breeding habitat would be required to mitigate for permanent impacts to one acre of impact to the same. CDFW recommends Caltrans propose mitigation for the Project-related impacts to both upland and aquatic CTS habitat in the MND at rate which will be agreed upon by both Caltrans and CDFW under the ITP.

COMMENT 2: Swainson's Hawk (SWHA)

Issue: SWHA have the potential to nest at and near the Project Action Area. The proposed Project will involve activities near large trees that may serve as potential nest sites.

Specific impacts: In the MND, Caltrans does not mention the possible need for incidental take authorization under CESA for any Project-related take of SWHA. However, without appropriate avoidance measures for SWHA, potential significant impacts (including take) could result from the Project-related activities. These significant impacts include: nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.

Evidence impact is potentially significant: SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). Approval of the Project will allow ground-disturbing activities that will involve noise, groundwork, and movement of workers that could affect nests and have the potential to result in nest abandonment, significantly impacting locally nesting SWHA.

Recommended Potentially Feasible Avoidance and Mitigation Measure(s) Because suitable habitat for SWHA is present at and near the Project Action Area, CDFW recommends conducting the following evaluation of the Project Action Area, the following edits to the Avoidance, Minimization, and Mitigation Measures for SWHA, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 3: Recommended Edits to Survey Narrative for SWHA on Page 84 of MND. Currently, Caltrans plans to conduct protocol-level surveys following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000) the season prior to Project implementation, "to determine if Swainson's hawks are nesting in the project area." CDFW recommends that Caltrans be clear that the protocol-level surveys will be conducted by a qualified biologist at and within ½ mile of the Project Action Area, and that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation if the Project commences during the breeding season (March 1 through September 15).

Recommended Mitigation Measure 4: Recommended Edits to No-Work Buffer Narrative on Page 84 of MND. If nesting pairs are identified during the protocol¬ level surveys, Caltrans proposes to observe a 500-foot no disturbance buffer around the nest tree. CDFW recommends that Caltrans be clear that if nesting pairs are observed, a ½-mile no disturbance buffer will be observed until the breeding season has ended or until the qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Recommended Mitigation Measure 5: Recommended SWHA Take Authorization Measure. CDFW recommends that Caltrans include a mitigation measure in the MND indicating that consultation with CDFW would be warranted in the event active SWHA nests are detected during surveys at or within ½-mile of the Project Action Area. Further this measure should indicate that take authorization through the issuance of an ITP would be obtained if avoidance of active SWHA nests cannot be achieved.

COMMENT 3: Tricolored Blackbird (TRBL)

Issue: TRBL have the potential to nest at and near the Project Action Area.

Specific impacts: In the MND, Caltrans does not mention the possible need for incidental take authorization under CESA for any Project-related take of TRBL. However, without appropriate avoidance measures for TRBL, potential significant impacts (including take) could result from the Project-related activities. These significant impacts include: nest abandonment, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of TRBL without appropriate incidental take authorization would be a violation of Fish and Game Code.

Evidence impact is potentially significant: The lack of suitable TRBL nesting habitat in the San Joaquin Valley limits their local distribution and abundance.

Approval of the Project will allow ground-disturbing activities that will involve noise, groundwork, and movement of workers that could affect nests and have the potential to result in nest abandonment significantly impacting locally nesting TRBL.

Recommended Potentially Feasible Avoidance and Mitigation Measure(s) Because suitable habitat for TRBL is present at and near the Project Action Area, CDFW

recommends conducting the following evaluation of the Project Action Area, editing the MND to include the following measures specific to TRBL, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 6: Recommended Edits to TRBL Survey Narrative on Page 83 of MND. Currently, Caltrans plans to conduct pre¬ construction surveys for TRBL to ensure no birds are nesting "in or next to the" Project Action Area. CDFW recommends Caltrans be clear that the surveys for TRBL will be conducted by a qualified wildlife biologist at and within 500 feet of the Project Action Area.

Recommended Mitigation Measure 7: Recommended Edit to No-Work Buffer on Page 83 of MND. If nesting TRBL· are identified during the pre-construction surveys, Caltrans proposes to observe a 100-foot no disturbance buffer around the nest(s). CDFW recommends that Caltrans be clear that if nesting TRBLs are observed, a 500-foot no disturbance buffer will be observed until the breeding season has ended or until the qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Recommended Mitigation Measure 8: Recommended TRBL Take Authorization Measure. CDFW recommends that Caltrans include a mitigation measure in the MND indicating that consultation with CDFW would be warranted in the event active TRBL nests are detected during surveys at or within 500 feet of the Project Action Area. Further this measure should indicate that take authorization through the issuance of an ITP would be obtained if avoidance of active TRBL nests cannot be achieved.

COMMENT 4: Burrowing Owl (BUOW)

Issue: BUOW have the potential to occur at and near the Project Action Area.

Specific impact: Without appropriate avoidance and minimization measures for BUOW, potentially significant impacts associated with Project activities could include nest reduction, inadvertent entrapment, reduced reproductive success, reduction in health or vigor of eggs and/or young, and direct mortality.

Evidence impact is potentially significant: The Project Action Area encompasses and is directly adjacent to BUOW nesting habitat. Noise, vegetation removal, movement of workers, and ground disturbance as a result of Project activities have the potential to significantly impact BUOW populations.

Recommended Potentially Feasible Avoidance and Minimization Measure(s) To evaluate potential impacts to BUOW, CDFW recommends editing the MND to include the following measures specific to BUOW, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 9: Recommended Edits to BUOW Avoidance on Page 64 of MND. In the BUOW avoidance narrative in the MND, Caltrans indicates that "Pre-construction survey will be completed within suitable habitat to ensure no birds are nesting in or adjacent to the project footprint." Further, Caltrans indicates that "If an

active owl burrow is found, it will be avoided... if possible." CDFW recommends no-disturbance buffers, as outlined in the "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Low Level of Disturbance	Med Level of Disturbance	High Level of Disturbance
Nesting sites	April 1-Aug 15	200 m	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

CDFW recommends Caltrans incorporate the above listed no-disturbance buffers into the BUOW avoidance narrative in the MND and include the following mitigation measure if those buffers cannot be achieved.

Recommended Mitigation Measure 10: Recommended BUOW Passive Relocation and Mitigation. According to the aforementioned Staff Report (CDFG 2012), exclusion is considered a potentially significant impact under CEQA. If BUOW nests are found within the above listed no-disturbance buffers, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of one burrow collapsed to· one artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting BUOW. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance, at a rate that is sufficient to detect BUOW if they return.

COMMENT 5: Listed Plants

Issue: Special-status plant species have been documented in the vicinity of the Project Action Area (CDFW 2019). The Project site contains habitat that may support special-status plant species meeting the definition of rare or endangered under CEQA section 15380 including, but not limited to, the State endangered and federally threatened succulent owl's clover (Castilleja campestris ssp. succulenta) and San Joaquin Valley Orcutt grass (O rcuttia inaequalis); and the State and federally endangered hairy Orcutt grass (Orcuttia pilosa). The MND indicates that Caltrans will attempt to avoid impacts to these plant species by fencing and avoiding the populations. However, Caltrans also

indicates that in the event these plants occur within the Project Action Area and cannot be avoided, Caltrans will consult with the USFWS on "any adverse effects to the species".

Specific impact: Without appropriate avoidance and minimization measures for special-status plants, potential significant impacts resulting from ground- and vegetation-disturbing activities following Project approval include inability to reproduce and direct mortality.

Evidence impact would be significant: Special-status plant species known to occur in the vicinity of the Project Action Area are threatened by residential development, road maintenance, vehicles, grazing, trampling, and invasive, non¬ native plants (CNPS 2019).

Recommended Potentially Feasible Minimization and Mitigation Measure(s) To evaluate potential impacts to special-status plant species associated with the Project, CDFW recommends conducting the following evaluation of the Project Action Area, editing the MND to include the following additional measures, and including the following mitigation measures as conditions of approval.

Recommended Mitigation Measure 11: Recommended Consultation with CDFW. In the MND, Caltrans indicates that if listed plants are found during pre-construction botanical surveys within the project footprint and can be avoided, they will be protected by fencing. Further, Caltrans indicates in the MND that if these plants cannot be avoided, Caltrans will initiate formal consultation with the USFWS. CDFW recommends that Caltrans edit this narrative in the MND to indicate that these plants will be avoided by a minimum of 25 feet, and that CDFW (not just the USFWS) will also be consulted in the event these plants species cannot be avoided.

Recommended Mitigation Measure 12: Recommended Special-Status Plant Survey Protocol. CDFW recommends that in addition to the proposed pre¬ construction botanical survey, Caltrans add a measure in the MND proposing protocol-level surveys implementing the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (CDFW 2018) the season prior Project commencement. This protocol, which is intended to maximize detectability, includes the identification of reference populations to facilitate the likelihood of field investigations occurring during the appropriate floristic period. In the absence of protocol-level surveys being performed, additional surveys may be necessary.

Recommended Mitigation Measure 13: Recommended State-listed Plant Take Authorization. CDFW recommends that Caltrans include a mitigation measure in the MND indicating that if listed plants cannot be avoided during Project implementation, take authorization through the acquisition of State ITP would be obtained prior to Project-related ground disturbance.

Editorial Comments and/or Suggestions

Nesting Birds: CDFW encourages that Project implementation occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 1O days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project Action Area to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e. nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival.

Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

Project Action Area Discussion: In the MND, Caltrans defines the Project Action Area as "the area that may be directly, indirectly, temporarily, or permanently affected by construction and construction-related activities." Further, Caltrans reports that the Project Action Area "includes the project footprint and a surrounding buffer between Avenue 15 and State Route 145 and is about 172.28 acres." CDFW calculates that at a length of 2.9 miles, the 172.28-acre Project Action Area would have to measure approximately 490 feet wide. Using drawings provided with the MND, CDFW estimates the Caltrans legal right-of-way measures about 130 feet wide along its length and while the utility relocation work will be conducted immediately outside the right-of-way (as depicted) it remains unclear why the Project Action Area is greater than 140 or 150 feet wide. CDFW recommends the Project Description provide additional details about the Project-related activities which require a 490-foot wide Project Action Area.

Analysis of Impacts to Vernal Pools: In the MND, Caltrans anticipates permanent and temporary impacts to as many as 77 hardpan and claypan vernal pools which occupy the Project Action Area. Caltrans anticipates permanent impacts as a result of clearing, grubbing, grading and the placement of fill material, and temporary impacts as a result of construction activities associated with utility relocation, construction staging, stockpile placement, vehicular and pedestrian traffic, and the installation of fencing.

CDFW suggests that some of the later may actually result in permanent (not temporary) impacts to these vernal pools. Specifically, if the utility relocation work involves trenching/excavation which compromises the aquitard and the holding capacity/hydroperiod of these vernal pools, they may no longer function as vernal pools. Impacts to vernal pool systems at the Project Action Area could impact the downstream surface hydrology and above listed species which rely on those pools. CDFW suggests Caltrans provide a more detailed analysis of the impacts that trenching/excavation work will have on the vernal pool systems at and near the Project Action Area.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subdivision. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNDDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals

FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, Section 753.5; Fish and Game Code, Section 711.4; Pub. Resources Code, Section 21089).

CDFW appreciates the opportunity to comment on the Project to assist Caltrans in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). If you have any questions, please contact Jim Vang, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014 extension 254, or by electronic mail at Jim.Vang@wildlife.ca.gov.

Sincerely,

Julie A. Vance

Regional Manager

Attachment: Recommended Mitigation Monitoring and Reporting Program

cc: United States Fish and Wildlife Service

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Attachment 1

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM

(MMRP)

PROJECT: Ranchos Rehabilitation. Project State Clearinghouse Number: 2020019068

RECOMMENDED MITIGATION MEASURE	STATUS/DATE/INITIALS
Before Disturbing Soil or Vegetation	blank cell
Mitigation Measure 1: CTS Take Minimization under ITP	blank cell
Mitigation Measure 2: CTS Mitigation under ITP	blank cell
Mitigation Measure 3: SWHA Survey	blank cell
Mitigation Measure 4: SWHA Avoidance	blank cell
Mitigation Measure 5: SWHA Take Authorization	blank cell
Mitigation Measure 6: TRBL Surveys	blank cell
Mitigation Measure 7: TRBL Avoidance	blank cell
Mitigation Measure 8: TRBL Take Authorization	blank cell
Mitigation Measure 9: BUOW Avoidance/Minimization	blank cell
Mitigation Measure I 0: BUOW Passive Relocation and Mitigation	blank cell
Mitigation Measure 11: Listed Plant Avoidance	blank cell
Mitigation Measure 12: Listed Plant Avoidance	blank cell
Mitigation Measure 13: Listed Plant Take Authorization	blank cell
blank cell	blank cell
During Construction	blank cell

Mitigation Measure 1: CTS Take Minimization	blank cell
Mitigation Measure 4: SWHA Avoidance	blank cell
Mitigation Measure 7: TRBL Avoidance	blank cell
Mitigation Measure 9: BUO W Avoidance	blank cell
Mitigation Measure 10: BUOW Passive Relocation Mitigation	blank cell

Responses to Comment Letter B: California Department of Fish and Wildlife

Comment B-1: Environmental Setting and Related Impact

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the United States Fish and Wildlife Service (USFWS)?

COMMENT 1: California Tiger Salamander (CTS)

Issue: Generally, CTS have the potential to occur at and in the vicinity of Project Action Area (CDFW 2019). Aerial photographs show that the 490-foot wide Project Action Area encompasses upland refugia and vernal pool breeding habitat for CTS. Accordingly, the MND states Caltrans is assuming presence of this species and will be acquiring a State Incidental Take Permit (ITP) pursuant to Fish and Game Code section 281(b). While the MND, as currently drafted, does include avoidance and minimization measures specific to CTS, CDFW suggests edits to those measures to reflect the measures which will be required under the ITP to meet CDFW's permit issuance criteria.

The Action Area and the total area studied consisted of a 172.28-acre area. Habitat within the Action Area consists of upland habitat and temporary aquatic habitat. Pools identified as temporary aquatic habitat type were observed not to remain inundated long enough to be considered potential breeding habitat for California tiger salamanders, however if CDFW has further data to show these pools are breeding habitat, please provide that data to Caltrans. Caltrans did identify four potential breeding pools in the general area, but those pools were located outside of the action area. There was one CNDDB occurrence of a California tiger salamander vernal pool within or directly next to the action area on the east side of State Route 41. During surveys Caltrans did not have access to this area but did observe this area from the road, however it was undetermined if this pool

was ponded long enough for California tiger salamander to undergo metamorphosis. This pool is outside of the project footprint and will be protected by the ESA fence, during construction. Therefore, no potential breeding habitat will be impacted due to the project.

Caltrans will coordinate with the California Department of Fish and Wildlife to include appropriate measures to minimize potential impacts to the California tiger salamander.

Specific Impacts: Depending on the small mammal species which constructs a burrow, its chambers can extend up to 50 feet from the burrow opening. Therefore, while a measure involving the salvage and relocation of individual CTS from within suitable burrows evidenced by openings within the Action Area is proposed in the MND, CDFW will additionally require salvage and relocation of individual CTS from burrows evidenced by openings at and beyond the Action Area.

Response: Caltrans will propose to excavate burrows within the project footprint, which includes the proposed Caltrans right of way and temporary construction easement. This is where temporary and permanent impacts associated with ground disturbance will occur. Caltrans will only be able to excavate burrows where we have legal authority to do so.

Additionally, the MND includes a measure involving the installation of Environmental Sensitive Area (ESA) fencing at the Action Area boundaries for the purposes of retarding Project-related siltation from the Action Area to the natural lands beyond the Action Area, and to delimit the Action Area and prevent Project-related activities beyond its boundaries. This ESA fencing would be installed prior to the planned CTS salvage and relocation work at the Project Action Area. CDFW recommends that this ESA fence (or another barrier) be installed immediately after the salvage and relocation work, and in consultation with CDFW for the additional purpose of excluding CTS from the Project Action Area during the breeding/dispersion season.

Response: Caltrans will work with CDFW to coordinate the appropriate time for installation of the ESA fence.

Finally, in the MND, Caltrans expects mitigating for impacts to CTS breeding habitat at a ratio of 0.5:1, and CTS upland habitat at a ratio of 3:1. Caltrans should understand that CDFW does not use predetermined ratios when determining adequacy under the fully mitigate standard, but will likely require more than 0.5 acre of breeding habitat to mitigate for permanent impacts to one acre of the same under the ITP.

Response: No potential breeding habitat will be impacted by the proposed project. Caltrans did identify four potential breeding ponds just outside of the action area and these areas will be avoided during construction. The

aquatic features onsite were classified as temporary aquatic habitat since these features were identified not to be inundated long enough to be considered suitable breeding habitat for CTS.

There was one CNDDB occurrence of a CTS vernal pool within or directly next to the action area on the east side of State Route 41. During surveys Caltrans did not have access to this area but did observe this area from the road, although, it was undetermined if this pool still ponded long enough for California tiger salamander to undergo metamorphosis. However, this pool is outside of the project footprint and will be protected by the ESA fence during construction

Caltrans proposes to implement a 2:1 ratio for potential impacts to California tiger salamander.

Evidence impact would be significant: Up to 75% of historic CTS habitat has been lost to development (Searcy et al. 2013). Loss, degradation, and fragmentation of habitat are the primary threats to CTS. Contaminants and vehicle strikes are also sources of mortality for the species (CDFW 2015, USFWS 2017). The Project Action Area is within the range of CTS, encompasses known occupied areas of CTS, and is surrounded by suitable breeding and aestivation habitat (i.e. grasslands interspersed with burrows and vernal pools). CTS have been determined to be physiologically capable of dispersing up to about 1.5 miles from seasonally flooded wetlands (Searcy and Shaffer 2011) and have been documented near the Project Action Area (CDFW 2019). Given the presence of suitable habitat at and surrounding the Project Action Area, Project activities have the potential to significantly impact local populations of CTS.

Response: The project does have the potential to impact the California tiger salamander, however these impacts encompass a total of 7.822 acres of upland habitat over a 2.9-mile section of State Route 41. This translates to a small sliver of what habitat is currently available for California tiger salamander in the project action area and surrounding areas. With avoidance and minimization measures in place, the potential for direct impacts and direct take of California tiger salamander will be less than significant. Potential California tiger salamander that may be in the area will still have suitable habitat available in the immediate area.

Recommended Potentially Feasible Avoidance and Mitigation Measure(s)
Because suitable habitat for CTS is present at and near the Project Action Area, CDFW recommends the following edits to the Mitigation Measures for CTS, and that these edited measures be made conditions of approval for the Project.

Recommended Mitigation Measure 1: Recommended Edit to the first item in a bulleted list of Avoidance and Mitigation Measures for CTS on page

82 of the MND. Currently, the first measure in the bulleted list of measures for CTS indicates, in part, that "Prior to utility relocation efforts and after the installation of temporary silt fencing, potentially suitable small mammal burrows may be excavated ... following approval of a relocation plan." CDFW recommends Caltrans be clear that the burrows which will be excavated will be those evidenced by suitable burrow openings located within the Action Area and those located outside but within 50 feet of the Action Area. Further, Caltrans should be clear that the fencing will be installed immediately after the relocation effort, not prior to. Finally, CDFW recommends that if the temporary silt fencing (or another barrier) is intended to function to exclude individual CTS from entering the Project Work Area during the breeding/dispersion season, it must be constructed to incorporate turn arounds be of a material CTS cannot climb, and that it is the subject of routine monitoring and maintenance.

Response: Caltrans will propose to excavate burrows evident by a suitable burrow opening.

Caltrans will propose to excavate burrows within the project footprint, which includes the proposed Caltrans right of way and temporary construction easement. This is where temporary and permanent impacts associated with ground disturbance will occur. Caltrans will only be able to excavate burrows where we have legal authority to do so.

Caltrans will work with CDFW to coordinate the appropriate time for installation of the ESA fence.

Caltrans will ensure that the proposed ESA fence will be constructed to incorporate turn arounds and will be made of a material that California tiger salamanders cannot climb. The fence will also be subject to routine monitoring and maintenance during construction.

Recommended Mitigation Measure 2: Recommended Edits to Compensatory Mitigation Narrative for Impacts to CTS on page 84 of the MND. Currently, Caltrans proposes to mitigate for impacts to upland habitat for CTS at a 3:1 ratio, and for impacts to aquatic habitat for CTS at a ratio of 0.5:1. While CDFW does not use pre-determined ratios when determining adequacy under the CESA fully mitigate standard, it is very likely more than 0.5 acres of breeding habitat would be required to mitigate for permanent impacts to one acre of impact to the same. CDFW recommends Caltrans propose mitigation for the Project-related impacts to both upland and aquatic CTS habitat in the MND at rate which will be agreed upon by both Caltrans and CDFW under the ITP.

Response: No breeding habitat was identified within the project action area. Caltrans did identify four potential breeding ponds just outside of the action area and these areas will be avoided during construction. The aquatic features onsite were classified as temporary aquatic habitat since these

features were identified not to be inundated long enough to be considered suitable breeding habitat for California tiger salamander.

There was one CNDDB occurrence of a California tiger salamander vernal pool within or directly next to the action area on the east side of State Route 41. During surveys Caltrans did not have access to this area but did observe this area from the road although, it was undetermined if this pool still ponded long enough for California tiger salamander to metamorphosis. However, this pool is outside of the project footprint and will be protected by the ESA fence, during construction

Caltrans proposes to implement a 2:1 ratio for potential impacts to California tiger salamander.

Comment B-2: COMMENT 2: Swainson's Hawk (SWHA)

Issue: SWHA have the potential to nest at and near the Project Action Area. The proposed Project will involve activities near large trees that may serve as potential nest sites.

Specific impacts: In the MND, Caltrans does not mention the possible need for incidental take authorization under CESA for any Project-related take of SWHA. However, without appropriate avoidance measures for SWHA, potential significant impacts (including take) could result from the Project-related activities. These significant impacts include: nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of the Fish and Game Code.

Response: Swainson’s Hawks were observed foraging within the action area during biological surveys however no active Swainson’s hawk nests were found within ½ mile of the action area during surveys. No trees are anticipated to be removed during construction. Loss of potential foraging habitat will occur along a narrow highway corridor. Suitable foraging habitat adjacent to the action area will still be available for any nesting Swainson’s hawks that may forage in the area. No Swainson’s hawk nest has been observed within the action area or within ½ mile therefore no direct take of the species is anticipated.

Evidence impact is potentially significant: SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). Approval of the Project will allow ground-disturbing activities that will involve noise, groundwork, and movement of workers that could affect nests and have the potential to result in nest abandonment, significantly impacting locally nesting SWHA.

Response: One historical nest was identified within the action area in 2013 however no activity was observed within this nest during the 2017 and 2018 survey season. This tree will be avoided during construction. The only other nesting habitat in the action area has been occupied by red tailed hawks and a great horned owl. These trees will also be avoided during construction. Therefore, significant impacts to Swainson's hawk are not anticipated.

Recommended Potentially Feasible Avoidance and Mitigation Measure(s) Because suitable habitat for SWHA is present at and near the Project Action Area, CDFW recommends conducting the following evaluation of the Project Action Area, the following edits to the Avoidance, Minimization, and Mitigation Measures for SWHA, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 3: Recommended Edits to Survey Narrative for SWHA on Page 84 of MND. Currently, Caltrans plans to conduct protocol-level surveys following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000) the season prior to Project implementation, "to determine if Swainson's hawks are nesting in the project area." CDFW recommends that Caltrans be clear that the protocol-level surveys will be conducted by a qualified biologist at and within ½ mile of the Project Action Area, and that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation if the Project commences during the breeding season (March 1 through September 15).

Response: Caltrans proposes to conduct protocol-level surveys which will be conducted by a qualified biologist at and within ½ mile of the Project Action Area.

Caltrans will also ensure that pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation if the Project commences during the breeding season (March 1 through September 15).

Recommended Mitigation Measure 4: Recommended Edits to No-Work Buffer Narrative on Page 84 of MND. If nesting pairs are identified during the protocol¬ level surveys, Caltrans proposes to observe a 500-foot no disturbance buffer around the nest tree. CDFW recommends that Caltrans be clear that if nesting pairs are observed, a ½-mile no disturbance buffer will be observed until the breeding season has ended or until the qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Response: Caltrans proposes to implement a 500-foot buffer if an active Swainson's Hawk nest is identified within a ½ mile of the action area. It is

Caltrans opinion that the ½ mile buffer is excessive. Caltrans acknowledges the concerns raised by CDFW however it has been Caltrans experience on multiple projects that a reduced buffer combined with monitoring allowed construction to continue without having a negative impact to any nesting Swainson's hawks in the area.

Recommended Mitigation Measure 5: Recommended SWHA Take Authorization Measure. CDFW recommends that Caltrans include a mitigation measure in the MND indicating that consultation with CDFW would be warranted in the event active SWHA nests are detected during surveys at or within ½-mile of the Project Action Area. Further this measure should indicate that take authorization through the issuance of an ITP would be obtained if avoidance of active SWHA nests cannot be achieved.

Response: Caltrans proposes to coordinate with CDFW once Swainson's hawk surveys are completed, however at this time Caltrans is not anticipating the need to request take authorization through issuance of an Incidental Take Permit from CDFW.

Comment B-3: COMMENT 3: Tricolored Blackbird (TRBL)

Issue: TRBL have the potential to nest at and near the Project Action Area.

Specific impacts: In the MND, Caltrans does not mention the possible need for incidental take authorization under CESA for any Project-related take of TRBL. However, without appropriate avoidance measures for TRBL, potential significant impacts (including take) could result from the Project-related activities. These significant impacts include: nest abandonment, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of TRBL without appropriate incidental take authorization would be a violation of Fish and Game Code.

Evidence impact is potentially significant: The lack of suitable TRBL nesting habitat in the San Joaquin Valley limits their local distribution and abundance. Approval of the Project will allow ground-disturbing activities that will involve noise, groundwork, and movement of workers that could affect nests and have the potential to result in nest abandonment significantly impacting locally nesting TRBL.

Response: There is no potential nesting habitat for tricolored blackbirds within the action area. The only area where tricolored blackbirds could potentially nest include small narrow strips of vegetation adjacent to the Madera Canal, outside of the action area. These locations are about 300 to 700 feet away from the work area. This area will be avoided during construction. In addition, the CNDDB location that was documented in 2010 located northwest of the project site, currently does not contain potential nesting habitat for this species.

The loss of a narrow strip of foraging habitat along the edge of State Route 41 is not anticipated to affect the nesting success of tricolored blackbirds that may be in the area as there is sufficient habitat that will remain available adjacent to the work area for potential foraging tricolored blackbirds.

Caltrans is not anticipating take of this species therefore Caltrans does not plan to obtain an incidental take permit for the tricolored blackbird.

Recommended Potentially Feasible Avoidance and Mitigation Measure(s) Because suitable habitat for TRBL is present at and near the Project Action Area, CDFW recommends conducting the following evaluation of the Project Action Area, editing the MND to include the following measures specific to TRBL, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 6: Recommended Edits to TRBL Survey Narrative on Page 83 of MND. Currently, Caltrans plans to conduct pre¬ construction surveys for TRBL to ensure no birds are nesting "in or next to the" Project Action Area. CDFW recommends Caltrans be clear that the surveys for TRBL will be conducted by a qualified wildlife biologist at and within 500 feet of the Project Action Area.

Response: Caltrans will propose to conduct preconstruction surveys for tricolored blackbird within the project footprint which includes the proposed Caltrans right of way and temporary construction easement. This is where temporary and permanent impacts associated with ground disturbance will occur.

Recommended Mitigation Measure 7: Recommended Edit to No-Work Buffer on Page 83 of MND. If nesting TRBL· are identified during the pre-construction surveys, Caltrans proposes to observe a 100-foot no disturbance buffer around the nest(s). CDFW recommends that Caltrans be clear that if nesting TRBLs are observed, a 500-foot no disturbance buffer will be observed until the breeding season has ended or until the qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Response: Caltrans proposes to implement a 100-foot buffer if nesting tricolored blackbirds are found within the action area, however it is unlikely there could be nesting tricolored blackbirds onsite as there was no potential nesting habitat identified within the action area. Potentially suitable nesting habitat is adjacent to the project site therefore if tricolored blackbirds are nesting in those areas, they will be at least 300 feet or more away from construction activities.

Recommended Mitigation Measure 8: Recommended TRBL Take Authorization Measure. CDFW recommends that Caltrans include a mitigation

measure in the MND indicating that consultation with CDFW would be warranted in the event active TRBL nests are detected during surveys at or within 500 feet of the Project Action Area. Further this measure should indicate that take authorization through the issuance of an ITP would be obtained if avoidance of active TRBL nests cannot be achieved.

Response: Caltrans proposes to coordinate with CDFW once tricolored blackbird surveys are completed, however at this time Caltrans is not anticipating the need to request take authorization through issuance of an ITP from CDFW.

Comment B-4: COMMENT 4: Burrowing Owl (BUOW)

Issue: BUOW have the potential to occur at and near the Project Action Area.

Specific impact: Without appropriate avoidance and minimization measures for BUOW, potentially significant impacts associated with Project activities could include nest reduction, inadvertent entrapment, reduced reproductive success, reduction in health or vigor of eggs and/or young, and direct mortality.

Evidence impact is potentially significant: The Project Action Area encompasses and is directly next to BUOW nesting habitat. Noise, vegetation removal, movement of workers, and ground disturbance as a result of Project activities have the potential to significantly impact BUOW populations.

Response: The loss of a narrow strip of foraging habitat along the edge of State Route 41 is not anticipated to significantly affect the nesting activities of any burrowing owls that may be in the area as there is sufficient habitat that will remain available adjacent to the work area for potential nesting and foraging burrowing owls. Further, during surveys no burrowing owls were observed, and no potential burrowing owl burrows were found to be present within the action area.

Recommended Potentially Feasible Avoidance and Minimization Measure(s) To evaluate potential impacts to BUOW, CDFW recommends editing the MND to include the following measures specific to BUOW, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 9: Recommended Edits to BUOW Avoidance on Page 64 of MND. In the BUOW avoidance narrative in the MND, Caltrans indicates that "Pre-construction survey will be completed within suitable habitat to ensure no birds are nesting in or next to the project footprint." Further, Caltrans indicates that "If an active owl burrow is found, it will be avoided... if possible." CDFW recommends no-disturbance buffers, as outlined in the "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), be implemented prior to and during any ground-disturbing activities. Specifically,

CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Low Level of Disturbance	Med Level of Disturbance	High Level of Disturbance
Nesting sites	April 1-Aug 15	200 m	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

CDFW recommends Caltrans incorporate the above listed no-disturbance buffers into the BUOW avoidance narrative in the MND and include the following mitigation measure if those buffers cannot be achieved.

Response: Caltrans included in our document that we would follow buffers identified in the Burrowing owl staff report where feasible.

Recommended Mitigation Measure 10: Recommended BUOW Passive Relocation and Mitigation. According to the aforementioned Staff Report (CDFG 2012), exclusion is considered a potentially significant impact under CEQA. If BUOW nests are found within the above listed no-disturbance buffers, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of one burrow collapsed to· one artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting BUOW. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance, at a rate that is sufficient to detect BUOW if they return.

Response: Caltrans will include measures if an occupied burrowing owl burrow is found onsite that will include burrow excavation which will be conducted by a qualified biologist and only to occur during the non-breeding season before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance.

Caltrans will also propose the replacement of occupied burrows with artificial burrows at a ratio of one burrow collapsed to one artificial burrow constructed (1:1) where feasible.

Comment B-5: COMMENT 5: Listed Plants

Issue: Special-status plant species have been documented in the vicinity of the Project Action Area (CDFW 2019). The Project site contains habitat that may support special-status plant species meeting the definition of rare or endangered under CEQA section 15380 including, but not limited to, the State endangered and federally threatened succulent owl's clover (Castilleja campestris ssp. succulenta) and San Joaquin Valley Orcutt grass (O rcuttia inaequalis); and the State and federally endangered hairy Orcutt grass (Orcuttia pilosa). The MND indicates that Caltrans will attempt to avoid impacts to these plant species by fencing and avoiding the populations. However, Caltrans also indicates that in the event these plants occur within the Project Action Area and cannot be avoided, Caltrans will consult with the USFWS on "any adverse effects to the species".

Specific impact: Without appropriate avoidance and minimization measures for special-status plants, potential significant impacts resulting from ground- and vegetation-disturbing activities following Project approval include inability to reproduce and direct mortality.

Response: Caltrans conducted protocol botanical surveys following the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (CDFW 2018) for listed plant species during the 2017 and 2019 survey seasons. No listed plant species were found. It is Caltrans opinion that there is a low potential for State listed plants to be present onsite therefore potential significant impacts to state listed plant species are not anticipated.

Evidence impact would be significant: Special-status plant species known to occur in the vicinity of the Project Action Area are threatened by residential development, road maintenance, vehicles, grazing, trampling, and invasive, non¬ native plants (CNPS 2019).

Recommended Potentially Feasible Minimization and Mitigation Measure(s) To evaluate potential impacts to special-status plant species associated with the Project, CDFW recommends conducting the following evaluation of the Project Action Area, editing the MND to include the following additional measures, and including the following mitigation measures as conditions of approval.

Recommended Mitigation Measure 11: Recommended Consultation with CDFW. In the MND, Caltrans indicates that if listed plants are found during pre-construction botanical surveys within the project footprint and can be avoided,

they will be protected by fencing. Further, Caltrans indicates in the MND that if these plants cannot be avoided, Caltrans will initiate formal consultation with the USFWS. CDFW recommends that Caltrans edit this narrative in the MND to indicate that these plants will be avoided by a minimum of 25 feet, and that CDFW (not just the USFWS) will also be consulted in the event these plants species cannot be avoided.

Response: If sensitive plant species are found onsite during preconstruction surveys, Caltrans will implement a 25-foot buffer. If a 25-foot buffer is not feasible, coordination with CDFW will be conducted.

Recommended Mitigation Measure 12: Recommended Special-Status Plant Survey Protocol. CDFW recommends that in addition to the proposed pre construction botanical survey, Caltrans add a measure in the MND proposing protocol-level surveys implementing the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (CDFW 2018) the season prior Project commencement. This protocol, which is intended to maximize detectability, includes the identification of reference populations to facilitate the likelihood of field investigations occurring during the appropriate floristic period. In the absence of protocol-level surveys being performed, additional surveys may be necessary.

Response: Caltrans will propose to conduct preconstruction surveys for sensitive plant species and will follow “Protocols for Surveying and Evaluating Impacts to Special Status Plant Populations and Natural Communities (CDFW 2018) the season prior to project commencement.

Recommended Mitigation Measure 13: Recommended State-listed Plant Take Authorization. CDFW recommends that Caltrans include a mitigation measure in the MND indicating that if listed plants cannot be avoided during Project implementation, take authorization through the acquisition of State ITP would be obtained prior to Project-related ground disturbance.

Response: If it is determined that a state listed plant is found onsite and cannot be avoided, Caltrans will then pursue the issuance of an incidental take permit from CDFW.

Comment B-6: Editorial Comments and/or Suggestions

Nesting Birds: CDFW encourages that Project implementation occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no

more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project Action Area to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e. nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

Response: Caltrans will have a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance. Surveys will be completed within the project footprint, which includes the proposed Caltrans right of way and temporary construction easement. This is where temporary and permanent impacts associated with ground disturbance will occur.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival.

Response: Caltrans proposes to implement a 100 foot no disturbance buffer for migratory birds and proposes to implement a 500-foot buffer for potential nesting raptors. Nests may also be monitored by a qualified biologist. Monitoring efforts will be based on site conditions and construction activities in the area.

Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

Response: Any variances to proposed buffers will take into consideration the specific baseline conditions for that location, line of sight to the nest and work to be completed in that area.

Comment B-7: Project Action Area Discussion: In the MND, Caltrans defines the Project Action Area as "the area that may be directly, indirectly,

temporarily, or permanently affected by construction and construction-related activities." Further, Caltrans reports that the Project Action Area "includes the project footprint and a surrounding buffer between Avenue 15 and State Route 145 and is about 172.28 acres." CDFW calculates that at a length of 2.9 miles, the 172.28-acre Project Action Area would have to measure about 490 feet wide. Using drawings provided with the MND, CDFW estimates the Caltrans legal right-of-way measures about 130 feet wide along its length and while the utility relocation work will be conducted immediately outside the right-of-way (as depicted) it remains unclear why the Project Action Area is greater than 140 or 150 feet wide. CDFW recommends the Project Description provide additional details about the Project-related activities which require a 490-foot wide Project Action Area.

Response: Originally the proposed project footprint encompassed a larger area of impact. Design changes were made that allowed the project footprint to be reduced to a narrower area of disturbance. However, we studied a much larger area initially to account for the original design that was proposed. The larger action area was kept to account for any changes that may occur during the final design phase. The action area consists of a 200-foot buffer from the existing right of way.

Comment B-8: Analysis of Impacts to Vernal Pools: In the MND, Caltrans anticipates permanent and temporary impacts to as many as 77 hardpan and claypan vernal pools which occupy the Project Action Area. Caltrans anticipates permanent impacts as a result of clearing, grubbing, grading and the placement of fill material, and temporary impacts as a result of construction activities associated with utility relocation, construction staging, stockpile placement, vehicular and pedestrian traffic, and the installation of fencing.

CDFW suggests that some of the later may actually result in permanent (not temporary) impacts to these vernal pools. Specifically, if the utility relocation work involves trenching/excavation which compromises the aquitard and the holding capacity/hydroperiod of these vernal pools, they may no longer function as vernal pools. Impacts to vernal pool systems at the Project Action Area could impact the downstream surface hydrology and above listed species which rely on those pools. CDFW suggests Caltrans provide a more detailed analysis of the impacts that trenching/excavation work will have on the vernal pool systems at and near the Project Action Area.

Response: Caltrans will revise our impacts to account for the pools that may be permanently impacted as a result of the trenching that will occur within the temporary construction easement.

Comment B-9: ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to

make subsequent or supplemental environmental determinations (Pub. Resources Code, Section 21003, subdivision. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNDDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals

Response: CNDDB occurrences for special status species were submitted once surveys for that season were completed. CNDDB forms were submitted by a Caltrans biologist for vernal pool fairy shrimp and western

spadefoot using the CNDDB Field Survey Form Report. Once preconstruction surveys are completed additional CNDDB Forms will be completed if special status species are found onsite during those surveys.

Comment B-10: FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, Section 753.5; Fish & Game Code, Section 711.4; Pub. Resources Code, Section 21089).

Response: The environmental filling fee will be paid with the filing of the Notice of Determination at the State Clearinghouse.

Comment Letter C: California State Clearinghouse

February 25, 2020

Jeff Sorensen
Caltrans, District 6 - Fresno/Bakersfield 855 M Street, Suite 200
Fresno, CA 93726

Subject: Ranchos Rehab Project SCH#: 2020019068

Dear Jeff Sorensen:

The State Clearinghouse submitted the above named MND to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on 2/24/2020, and the comments from the responding agency (ies) is (are) available on the CEQA database for your retrieval and use. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

Check the CEQA database for submitted comments for use in preparing your final environmental document: https://ceqanet.opr.ca.gov/2020019068/2. Should you need more information or clarification of the comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Responses to Comment Letter C: California State Clearinghouse

Comment C-1: This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Response: Thank you for your letter noting Caltrans has complied with the State Clearinghouse requirements in accordance with CEQA.

Chapter 5 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Allam Alhabaly, Transportation Engineer. B.S., California State University, Fresno, School of Engineering; 17 years of experience in environmental technical studies, with emphasis on noise studies. Contribution: Prepared the Air, Noise, Water Compliance Studies.

Jon L. Brady, Associate Environmental Planner/Architectural Historian. M.A., History, California State University, Fresno; B.A., Political Science and Anthropology; more than 30 years of experience as a consulting archaeologist and historian. Contribution: Prepared the Historic Architectural Survey Report.

Diego Caldera, Civil Engineer. P.E. B.S., Civil Engineering, California State University, Fresno, CA; 15 years of Hydraulics/Hydrology experience. Contribution: Prepared the Location Hydraulic Study.

Samantha Kleam, Environmental Planner/Archaeologist. M.A., Anthropology with a focus in Archaeology, California State University, Fullerton; B.S., Anthropology, University of California, Riverside; more than 6 years of experience as a federal and state archaeologist. Contribution: Prepared the Historic Properties Survey Report, Archaeological Survey Report, and co-authored the Archaeological Evaluation Report.

Joseph Llanos, Graphic Designer III. B.A., Graphic Design, California State University, Fresno; 20 years of visual design and public participation experience. Contribution: Prepared the project maps.

Mandy Macias, Associate Environmental Planner (Archaeology). B.A., Anthropology, California State University, Fresno; more than 20 years of California and Great Basin archaeology and cultural resources management experience. Contribution: Prehistoric Archaeology, Native American consultation.

Michael Mills, Landscape Architect. B.A., Landscape Architecture, Utah State University, Logan, Utah; more than 19 years of visual studies experience. Contribution: Prepared the Visual Impact Assessment.

Tamra Nunes, Associate Environmental Planner (Natural Sciences). B.A., Biology, California State University, Fresno; 23 years of biology experience. Contribution: Prepared the Natural Environment Study.

Som Phongsavanh, Associate Environmental Planner. B.S., Biology/Physiology, California State University, Fresno; 19 years of

environmental planning experience. Contribution: Prepared the environmental document.

Richard Putler, Senior Environmental Planner. M.A., City and Regional Planning, California State University, Fresno; B.A., Political Science, University of California, Davis; 19 years of environmental planning experience. Contribution: Reviewed the environmental document.

C. Kristina Roper, Consulting Archaeologist. M.A., Cultural Resources Management, Sonoma State University; B.A., Anthropology, University of California, Berkeley; 38 years as a consulting archaeologist working in the western United States; 24 years as a Lecturer in Anthropology at California State University, Fresno. Contribution: Prepared the Findings of Effect and co-authored the Archaeological Evaluation Report.

Jane Sellers, Associate Environmental Planner. B.A., Journalism, California State University, Fresno; 19 years of environmental compliance experience, focusing on Quality Assurance/Quality Control and reviewing and editing NEPA and CEQA environmental documents; 1.5 years of environmental planning (generalist) experience. Contribution: Provided technical editing and review of environmental document, including Americans with Disabilities Act compliance.

Lea Spann, Engineering Geologist. B.A., Environmental Studies, University of California, Santa Barbara; over 20 years of hazardous waste/materials experience and 5 years of environmental planning experience. Contribution: Prepared the Initial Site Assessment and Preliminary Site Investigation.

Richard C. Stewart, Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; more than 30 years of hazardous waste and water quality experience; 17 years of paleontology/geology experience. Contribution: Prepared the Paleontological Identification Report.

Jennifer H. Taylor, Environmental Office Chief. Double B.A., Political Studies and Organizational Sciences, Pitzer College; more than 30 years of experience in environmental and land use planning. Contribution: Oversight review of the environmental document.

Juergen Vespermann, Senior Environmental Planner. Civil Engineering Degree, Fachhochschule Muenster, Germany; more than 20 years of experience in transportation planning/environmental planning. Contribution: Oversight review of the environmental document.

Chapter 6 Distribution List

All addresses are in California.

Federal Agencies

U.S. Army Corps of Engineers
1325 J Street, Room 1513
Sacramento District
Sacramento, CA 95814

U.S. Department of Agriculture
Madera Service Center
425 North Gateway Drive, Suite E
Madera, CA 93637

U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105-3901

U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95814

Bureau of Indian Affairs
2800 Cottage Way
Sacramento, CA 95825

Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way
Sacramento, CA 95825-1898

State Agencies

Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 95812-4025

California Department of Fish and Wildlife
1234 East Shaw Avenue
Fresno, CA 93710-7802

Department of Water Resources
1416 9th Street, Room 1115-1
Sacramento, CA 95814

Energy Commission
1516 Ninth Street, MS 29
Sacramento, CA 95814-5512

California Highway Patrol
3051 Airport Drive
Madera, CA 93637-9294

California Transportation Commission
1120 N Street, Room 2221 (MS52)
Sacramento, CA 95814-5620

Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691

Central Valley Flood Protection Board
3310 El Camino Avenue, Suite 170
Sacramento, CA 95821

State Air Resources Board
1001 I Street
Sacramento, CA 95812

Office of Planning and Research/State Clearinghouse
1400 10th Street
Sacramento, CA 95814

State Lands Commission
100 Howe Avenue, Suite 100
Sacramento, CA 95825-8202

California Natural Resources Agency
1416 9th Street, Number 1311
Sacramento, CA 95814-5509

State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Department of Water Resources
South Central Region
3374 East Shields Avenue
Fresno, CA 93726

Central Valley Regional Water Quality Control Board
1685 E Street
Fresno, CA 93706

Caltrans Division of Environmental Analysis
P.O. Box 942874, MS 27
Sacramento, CA 94274-0001

CA State Historic Preservation Officer
1725 23rd Street, Suite 100
Sacramento, CA 95816

California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814

Cal Fire–Madera, Mariposa, Merced Units
5366 Highway 49 North
Mariposa, CA 95338

California State Transportation Agency
915 Capitol Mall, Room 350-B
Sacramento, CA 95814

Regional and Local Agencies

Madera County Agricultural Commission
332 South Madera Avenue
Madera, CA 93637

Madera County Chamber of Commerce
120 North E Street
Madera, CA 93638

Madera County Economic Development Commission
2425 West Cleveland Avenue, Suite 101
Madera, CA 93637

Madera County Farm Bureau
13314 Road 26
Madera, CA 93637-8923

Madera County Fire Department
14225 Road 28
Madera, CA 93637

Madera County Flood Control District
135 West Yosemite Avenue
Madera, CA 93637-3514

Madera County Water and Natural Resources Department
200 West 4th Street
Madera, CA 93637

Madera County Sheriff's Headquarters
14143 Road 28
Madera, CA 93637

Madera Irrigation District
12152 Road 28¼
Madera, CA 93637

Madera County Planning Division
200 West 4th Street
Madera, CA 93637

Madera County Public Works Department
200 West 4th Street
Madera, CA 93637

Madera County Transportation Commission
2001 Howard Road, Suite 201
Madera, CA 93637

Madera-Chowchilla Water and Power Authority
327 South Chowchilla Boulevard
Chowchilla, CA 93610

Elected Officials

Honorable Dianne Feinstein
U.S. Senate
2500 Tulare Street, Suite 4290
Fresno, CA 93721

Honorable Kamala Harris
U.S. Senate
2500 Tulare Street, Suite 5290
Fresno, CA 93721

Honorable Tom McClintock
U.S. House of Representatives
California - District 4
2200A Douglas Boulevard, Suite 240
Roseville, CA 95661

Honorable Jim Costa
U.S. House of Representatives
California - District 16
855 M Street, Suite 940
Fresno, CA 93721

Honorable Frank Bigelow
California State Assembly, District 5
730 North I Street, Suite 102
Madera, CA 93637

Honorable Brett Frazier
Madera County Board of Supervisors
District 1 Supervisor
200 West 4th Street
Madera, CA 93637

Native American Tribal Representatives

Mr. Jerry Brown, Tribal Chair
Chaushilha Yokuts
10553 North Rice Road
Fresno, CA 93720

Mr. Robert Ledger Sr, Chairman
Dumna Wo-Wah Tribal Government
2216 East Hammond Street
Fresno, CA 93602

Ms. Maryann McGovern, Chairperson
North Fork Rancheria
P.O. Box 929
North Fork, CA 93643

Mr. Ron Goode, Tribal Chair
North Fork Mono Tribe
13396 Tollhouse Road
Clovis, CA 93619

Ms. Lee Ann Walker-Grant
Table Mountain Rancheria
P.O. Box 410
Friant, CA 93626

Ms. Lorrie Planas
Choinumni Tribe
2736 Palo Alto
Clovis, CA, 93611

Mr. Eric Smith
Dumna Wo-Wah Tribal Government
2216 East Hammond Street
Fresno, CA 93602

Mr. Kenneth Woodrow, Tribal Chair
Eshom Valley Band of Indians
1179 Rock Haven Court
Salinas, CA 93906

Ms. Katherine Erolinda Perez
North Valley Yokuts Tribe
P.O. Box 717
Linden, CA 95236

Ms. Mary Motola, Tribal Historic Preservation Office
Picayune Rancheria of Chukchansi Indians
46575 Road 417, Building A
Coarsegold, CA 93613

Ms. Lois Martin, Chairperson
Southern Sierra Miwuk Nation
P.O. Box 186
Mariposa, CA 95338

Mr. Frank Marquez
Mono/Foothills Yokuts
P.O. Box 565
Friant, CA 93626

Mr. David Alvarez, Chairperson
Traditional Choinumni East of Kings River
2415 East Houston Avenue
Fresno, CA 93720

Mr. Lawrence Bill, Chairman
Sierra Nevada Native American Coalition
P.O. Box 125
Dunlap, CA 93621

Robert Pennell, Cultural Resources
Table Mountain Rancheria
P.O. Box 410
Friant, CA 93626

Ms. Claudia Gonzales, Chairperson
Picayune Rancheria of Chukchansi Indians
8080 North Palm Avenue, Suite 207
Fresno, CA 93711

Ms. Rosemary Smith, Chairperson
California Choinumni Tribal Project
1099 Pistachio Avenue
Clovis, CA 93611

Mr. Stanley Alec, Chairperson
Choinumni Farm Tribe
3515 East Fedora Avenue
Fresno, CA 93726

Mr. Robert Marquez, Chairperson
Cold Springs Rancheria of Mono Indians
32535 Sycamore Road
Tollhouse, CA 93667

Ms. Bernadette Jeff, Tribal Member
Choinumni Tribe of Yokuts
81 West Santa Ana, Number C
Clovis, CA 93612

Ms. Karin Kirkendall
Dumna
1003 9th Street
Fresno, CA 93702

Residences, Communities, and Businesses

Mr. Mike Urrutia
P.O. Box 226
Friant, CA 93626

Ms. Elizabeth Anne Cordova
P.O. Box 40
O'Neals, CA 93645

Ms. Betty Jean Morgan
600 West Fremont Street
Stockton, CA 95203

Vulcan Materials Company
29316 Avenue 12 ½
Madera, CA 93638

Tesoro Viejo
4150 Town Center Boulevard, Suite 101
Madera, CA 93636

Pacific Gas and Electric, Environmental Permits/Planning
1455 East Shaw Avenue, Bag 23
Fresno, CA 93657

Ponderosa Telephone Company
P.O. Box 21
O'Neals, CA 93645

Appendix A Section 4(f)

Section 4(f) De Minimis Determination

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 U.S. Code 138 and 49 U.S. Code 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. The Federal Highway Administration's final rule on Section 4(f) de minimis findings is codified in 23 Code of Federal Regulations 774.3 and Code of Federal Regulations 774.17.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 U.S. Code 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

One historic resource within the area of potential affects—the Madera Canal (P-20-002308)—and its contributing features at post mile 6.88 were determined eligible for the National Register of Historic Places under Criterion A, which includes events that have made a significant contribution to the broad patterns of our history. It is eligible as a contributor/character-defining feature of the Central Valley Project and the Central Valley Project's role in the development of agriculture in the San Joaquin Valley after 1940. The State Historic Preservation Officer concurred on the eligibility finding in a letter dated November 12, 2019.

The Madera Canal Bridge (Bridge Number 41 0039) at the Madera Canal will be widened by 2 feet on both sides of the structure to meet the 8-foot-width shoulder standard. The bridge will be widened using precast/prestressed steel reinforced concrete beams. Falsework will be erected as a temporary structure to hold and support fresh concrete, stabilize girders, and provide temporary support until the entire structure is self-supporting. The falsework will also prevent materials from entering the Madera Canal since no work is proposed in the Madera Canal.

The project proposes widening shoulders to standard and extending the culvert to attain the standard clear recovery width of 20 feet at the location of the flume. The two 48-inch pipes that convey overflow from the flume will be extended about 10 feet, and the headwall will be shifted about 10 feet to the west. The modifications to these features constitute a *de minimis* "use" of a

protected Section 4(f) resource. Caltrans submitted a letter to the State Historic Preservation Officer prior to approving the final environmental document notifying the agency of Caltrans' intent to adopt a de minimis finding on the project's effects to the Madera Canal and its associated features.

The following measures are proposed to avoid and minimize adverse impacts to the historic resource:

- The work proposed at the Madera Canal Bridge will be performed on top of the bridge deck. Falsework will be erected as a temporary structure to hold and support fresh concrete, stabilize girders, and provide temporary support until the entire structure is self-supporting. The falsework will prevent materials from entering the Madera Canal.
- Work at the Madera Canal Bridge will occur during the dry season when there is no water in the canal, avoiding any impacts to the water conveyance function of the canal.
- Caltrans will ensure that a Caltrans principal architectural historian will review construction plans at the 60 percent and 95 percent constructability phases of the project.
- Caltrans will include monitoring of construction activities at the Madera Canal.

Resources Evaluated Relative to the Requirements of Section 4(f): No Use Determination

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S. Code 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

Madera Canal Bridge

The Madera Canal Bridge (Bridge Number 41-0030) was evaluated in 2002 as part of a separate highway project. At that time, it was determined to be a contributor to the Madera Canal and the Central Valley Project under Criteria A and C. However, the original materials (wood post and beam railing) were replaced with non-similar materials (non-perforated concrete railing), which was considered an adverse impact. In 2015, a qualified Caltrans architectural

historian reevaluated the bridge due to the 2002 modifications in the context of the Madera Canal and its associated features. The bridge was determined not eligible individually or as a contributor under any applicable criterion due to a loss of historical integrity. Therefore, the provisions of Section 4(f) are not triggered.

Appendix B Species Lists

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2020-SLI-1613
Event Code: 08ESMF00-2020-E-05021
Project Name: 06-R210 Madera Ranchos

April 14, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-1613

Event Code: 08ESMF00-2020-E-05021

Project Name: 06-R210 Madera Ranchos

Project Type: TRANSPORTATION

Project Description: Roadway Improvements

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.98873470979099N119.7939510829747W

Counties: Madera, CA

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/37/office/11420.pdf	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Fleshy Owl's-clover *Castilleja campestris ssp. succulenta* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8096	Threatened
Hairy Orcutt Grass *Orcuttia pilosa* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2262	Endangered
San Joaquin Orcutt Grass *Orcuttia inaequalis* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5506	Threatened

Critical habitats

There are 4 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Fleshy Owl's-clover *Castilleja campestris ssp. succulenta* https://ecos.fws.gov/ecp/species/8095#crithab	Final
Hairy Orcutt Grass *Orcuttia pilosa* https://ecos.fws.gov/ecp/species/2262#crithab	Final
San Joaquin Orcutt Grass *Orcuttia inaequalis* https://ecos.fws.gov/ecp/species/5506#crithab	Final
Vernal Pool Fairy Shrimp *Branchinecta lynchi* https://ecos.fws.gov/ecp/species/498#crithab	Final

Caltrans Project 06-0R210 NOAA official species list (updated)

Dettloff, Dane@DOT <dane.dettloff@dot.ca.gov>
Wed 4/15/2020 330 PM
To: nmfswcrca.specieslist@noaa.gov <nmfswcrca.specieslist@noaa.gov>

Quad Name **Friant**

Quad Number **36119-H6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -

Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Gregg**
Quad Number **36119-H8**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds

Quad Name **Lanes Bridge**
Quad Number **36119-H7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office

562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds

Quad Name **Little Table Mountain**
Quad Number **37119-A7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds

Quad Name **Millerton Lake West**
Quad Number **37119-A6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds

Dane Dettloff
Associate Environmental Planner (Natural Science)
Endangered Species and Wildlife Biologist
California Department of Transportation District 6
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Fresno CA 93721
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Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Friant (3611986) OR Gregg (3611988) OR Lanes Bridge (3611987) OR Little Table Mtn. (3711917) OR Millerton Lake West (3711916))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California horned lark *Eremophila alpestris actia*	ABPAT02011	None	None	G5T4Q	S4	WL
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
dwarf downingia *Downingia pusilla*	PDCAM060C0	None	None	GU	S2	2B.2
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Great Valley Mixed Riparian Forest *Great Valley Mixed Riparian Forest*	CTT61420CA	None	None	G2	S2.2	
hairy Orcutt grass *Orcuttia pilosa*	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
hardhead *Mylopharodon conocephalus*	AFCJB25010	None	None	G3	S3	SSC
Hartweg's golden sunburst *Pseudobahia bahiifolia*	PDAST7P010	Endangered	Endangered	G1	S1	1B.1
Hoover's calycadenia *Calycadenia hooveri*	PDAST1P040	None	None	G2	S2	1B.3
Hoover's cryptantha *Cryptantha hooveri*	PDBOR0A190	None	None	GH	SH	1A
Madera leptosiphon *Leptosiphon serrulatus*	PDPLM09130	None	None	G3	S3	1B.2
midvalley fairy shrimp *Branchinecta mesovallensis*	ICBRA03150	None	None	G2	S2S3	
moestan blister beetle *Lytta moesta*	IICOL4C020	None	None	G2	S2	
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Munz's tidy-tips *Layia munzii*	PDAST5N0B0	None	None	G2	S2	1B.2

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool *Northern Hardpan Vernal Pool*	CTT44110CA	None	None	G3	S3.1	
orange lupine *Lupinus citrinus var. citrinus*	PDFAB2B103	None	None	G2T2	S2	1B.2
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin Pocket Mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
spotted bat *Euderma maculatum*	AMACC07010	None	None	G4	S3	SSC
succulent owl's-clover *Castilleja campestris var. succulenta*	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Sycamore Alluvial Woodland *Sycamore Alluvial Woodland*	CTT62100CA	None	None	G1	S1.1	
Table Mountain harvestman *Calicina mesaensis*	ILARAU8070	None	None	G1	S1	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S2	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	

Record Count: 40

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Friant (3611986) OR Gregg (3611968) OR Lanes Bridge (3611987) OR Little Table Mtn. (3711917) OR Millerton Lake West (3711916))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks A	B	C	D	X	U	Population Status Historic > 20 yr	Recent <= 20 yr	Presence Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G2G3 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	445 613	955 S:4	0	0	1	0	0	3	1	3	4	0	0
Ambystoma californiense California tiger salamander	G2G3 S2S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	281 1,300	1231 S:56	8	15	5	2	5	21	20	36	51	4	1
Antrozous pallidus pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	1,360 1,360	420 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	396 435	1989 S:3	1	1	0	0	0	1	2	1	3	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None Candidate Endangered		700 1,100	276 S:2	0	0	0	0	0	2	2	0	2	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	273 650	770 S:50	5	14	5	0	1	25	10	40	49	1	0
Branchinecta mesovallensis midvalley fairy shrimp	G2 S2S3	None None		335 460	126 S:3	1	0	0	0	0	2	2	1	3	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	282 665	2518 S:7	1	3	0	0	0	3	0	7	7	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks A	B	C	D	X	U	Population Status Historic > 20 yr	Recent <= 20 yr	Presence Extant	Poss. Extirp.	Extirp.
Calicina mesaensis Table Mountain harvestman	G1 S1	None None		760 760	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Calycadenia hooveri Hoover's calycadenia	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive		37 S:1	0	0	0	0	0	1	0	1	1	0	0
Castilleja campestris var. succulenta succulent owl's-clover	G4?T2T3 S2S3	Threatened Endangered	Rare Plant Rank - 1B.2	300 500	95 S:12	3	4	1	1	1	2	9	3	11	1	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	270 270	156 S:1	0	0	0	0	1	0	1	0	0	0	1
Cryptantha hooveri Hoover's cryptantha	GH SH	None None	Rare Plant Rank - 1A	1,200 1,200	4 S:1	0	0	0	0	0	1	1	0	1	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S2	Threatened None		270 270	271 S:1	0	0	1	0	0	0	1	0	1	0	0
Downingia pusilla dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	300 300	132 S:1	0	0	0	0	0	1	1	0	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	470 1,230	1385 S:6	1	0	0	2	0	3	2	4	6	0	0
Eremophila alpestris actia California horned lark	G5T4Q S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	370 370	94 S:1	0	0	0	1	0	0	1	0	1	0	0
Eryngium spinosepalum spiny-sepaled button-celery	G2 S2	None None	Rare Plant Rank - 1B.2	405 630	108 S:6	3	2	0	0	0	1	1	5	6	0	0
Euderma maculatum spotted bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	500 500	68 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks A	B	C	D	X	U	Population Status Historic > 20 yr	Recent <= 20 yr	Presence Extant	Poss. Extirp.	Extirp.
Eumops perotis californicus western mastiff bat	G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority		296 S:1	0	0	0	0	0	1	1	0	1	0	0
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	G2 S2.2	None None		280 280	68 S:1	0	0	0	0	0	1	1	0	1	0	0
Layia munzii Munz's tidy-tips	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		68 S:1	0	0	0	0	0	1	1	0	1	0	0
Leptosiphon serrulatus Madera leptosiphon	G3 S3	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	600 1,050	27 S:3	0	0	0	0	0	3	3	0	3	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	285 642	438 S:22	1	8	1	0	0	12	10	12	22	0	0
Lupinus citrinus var. citrinus orange lupine	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,950 2,950	57 S:1	1	0	0	0	0	0	0	1	1	0	0
Lytta moesta moestan blister beetle	G2 S2	None None		410 410	12 S:1	0	0	0	0	1	0	1	0	0	1	0
Lytta molesta molestan blister beetle	G2 S2	None None		275 275	17 S:1	0	0	0	0	0	1	1	0	1	0	0
Mylopharodon conocephalus hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	255 255	33 S:1	0	0	0	0	0	1	1	0	1	0	0
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	G1 S1.1	None None		350 350	21 S:1	0	0	0	0	0	1	1	0	1	0	0
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	G3 S3.1	None None		315 400	126 S:8	1	1	0	2	0	4	8	0	8	0	0
Orcuttia inaequalis San Joaquin Valley Orcutt grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	300 410	47 S:10	1	2	2	1	4	0	5	5	6	0	4
Orcuttia pilosa hairy Orcutt grass	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	275 410	35 S:6	0	3	0	0	3	0	3	3	3	3	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks A	B	C	D	X	U	Population Status Historic > 20 yr	Recent <= 20 yr	Presence Extant	Poss. Extirp.	Extirp.
Perognathus inornatus San Joaquin Pocket Mouse	G2G3 S2S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern		127 S:1	0	0	0	0	0	1	1	0	1	0	0
Pseudobahia bahiifolia Hartweg's golden sunburst	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	440 500	27 S:5	0	4	0	0	1	0	1	4	4	1	0
Rana boylii foothill yellow-legged frog	G3 S3	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	1,252 1,252	2468 S:1	0	0	0	0	0	1	1	0	1	0	0
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	310 310	126 S:1	0	1	0	0	0	0	0	1	1	0	0
Spea hammondii western spadefoot	G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	259 1,380	1334 S:71	5	13	5	4	1	43	18	53	70	1	0
Sycamore Alluvial Woodland Sycamore Alluvial Woodland	G1 S1.1	None None		360 360	17 S:1	0	0	1	0	0	0	1	0	1	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	374 1,200	592 S:3	0	0	0	0	0	3	2	1	3	0	0
Vulpes macrotis mutica San Joaquin kit fox	G4T2 S2	Endangered Threatened		410 410	1018 S:1	0	0	0	0	0	1	1	0	1	0	0

CNPS California Native Plant Society — Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

13 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3611986, 3611988, 3611987 3711917 and 3711916;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank	State Listing Status	Federal Listing Status	Habitats	Lowest Elevation	Highest Elevation	CA Endemic
Bryum chryseum	brassy bryum	Bryaceae	moss		4.3	S3	G5			• Chaparral (openings) • Cismontane woodland • Valley and foothill grassland	50 m	600 m	
Calycadenia hooveri	Hoover's calycadenia	Asteraceae	annual herb	Jul-Sep	1B.3	S2	G2			• Cismontane woodland • Valley and foothill grassland	65 m	300 m	yes
Castilleja campestris var. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	(Mar)Apr-May	1B.2	S2S3	G4? T2T3	CE	FT	• Vernal pools (often acidic)	50 m	750 m	yes
Cryptantha hooveri	Hoover's cryptantha	Boraginaceae	annual herb	Apr-May	1A	SH	GH			• Inland dunes • Valley and foothill grassland (sandy)	9 m	150 m	yes
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	4.2	S3	G4T3			• Cismontane woodland • Valley and foothill grassland	60 m	600 m	yes
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU			• Valley and foothill grassland (mesic) • Vernal pools	1 m	445 m	
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.2	S2	G2			• Valley and foothill grassland • Vernal pools	80 m	975 m	yes
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	Apr-May	1B.2	S3	G3			• Cismontane	300 m	1300 m	yes

										woodland • Lower montane coniferous forest			
Lupinus citrinus var. citrinus	orange lupine	Fabaceae	annual herb	Apr-Jul	1B.2	S2	G2T2			• Chaparral • Cismontane woodland • Lower montane coniferous forest	380 m	1700 m	yes
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	1B.1	S1	G1	CE	FT	• Vernal pools	10 m	755 m	yes
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	May-Sep	1B.1	S1	G1	CE	FE	• Vernal pools	46 m	200 m	yes
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	Mar-Apr	1B.1	S2	G2	CE	FE	• Cismontane woodland • Valley and foothill grassland	15 m	150 m	yes
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3			• Marshes and swamps (assorted shallow freshwater)	0 m	650 m	yes

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 15 April 2020].

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Contributors
The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

Appendix C Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

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Making Conservation a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

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For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix D Avoidance, Minimization and/or Mitigation Summary

To ensure that all environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the Environmental Commitments Record that follows) will 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.

Real Property Acquisition

No mitigation measures are required for impacts to real property acquisitions. The following avoidance and minimization measures are required:

- Caltrans will acquire necessary property for the project in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.
- Acquisitions for construction easements are temporary, and the land will be returned to the adjacent property owner after project completion.
- Property owners will be compensated for land acquisition as well as any landscaping and fencing that are removed from their properties.

Utilities and Emergency Services

Utilities

No mitigation measures are required for impacts to utilities. The following avoidance and minimization measures are required:

- All utility relocation work will be done by the utility companies. Utility users will be informed of the date and time in advance of any service disruptions.
- Construction work at the Madera Canal will be coordinated with the Madera Irrigation District and the Bureau of Reclamation. No work is expected inside the canal.

Emergency Services

No mitigation measures are required for impacts to emergency services. The following avoidance and minimization measures are required:

- A detailed traffic management plan will be developed during the Plans, Specifications, and Estimates phase of the project to minimize delays and maximize safety during construction. The traffic management plan may include, but is not limited to, the following:
    - Release of information through brochures and mailers, press releases and media alerts, and planned lane closure notices from the Caltrans website.
    - Use of portable changeable message signs.
    - Incident management through the Construction Zone Enhancement Enforcement Program (COZEEP) and the transportation management plan (TMP).
- The one-way traffic control will be used only at night due to lower traffic volumes and should not cause more than a 10-minute delay. There will be flaggers and a pilot car that will help guide traffic. Priority will be given to emergency responders to pass through to alleviate any delays.

Cultural Resources

Archaeological Resources

The following avoidance, minimization, and mitigation measures are for impacts to archaeological resources:

- The Memorandum of Agreement between Caltrans and the State Historic Preservation Officer will require that an Archaeological Treatment Plan is implemented for the project. Caltrans will implement the following measures to mitigate the project's impacts to the prehistoric site, CA-MAD-1503:
    - Adverse effects to the resource will be mitigated through a Phase 3 data recovery. Procedures for fieldwork, laboratory analysis, and reporting, as well as procedures for archaeological monitoring, will be detailed in the Archaeological Treatment Plan.
    - Phase 3 data recovery will be conducted within the project limits at construction, prior to any ground-disturbing activities to prevent the loss of cultural data. The data recovery may include, but is not limited to, the following activities:

a. Surface investigation, shovel test pits, core sampling, block excavation, trenching, and remote sensing.
b. Material recordation, recovery, collection and analysis.
c. All recovered cultural materials will be curated at an appropriate curation facility.
d. Public distribution and/or outreach of cultural information obtained from analysis of data recovery efforts.
e. Preparation of an ethnographic study for use as a reference in future transportation projects. This was added after the draft environmental document was circulated.

- Environmentally Sensitive Area fencing will be installed to protect site CA-MAD-1503 as well as sites CA-MAD-1912 and CA-MAD-1505, during construction.
- Native American monitors will also be present, especially during Phase 3 data recovery.

- Phase 3 excavations will not start until the biological opinion is issued that will permit this type of work in federally protected species habitats and/or designated critical habitats.

Architectural Resources

The following measures will avoid and minimize adverse impacts to the Madera Canal and its associated features:

- The work at the Madera Canal Bridge will be performed on top of the bridge deck. Falsework will be erected as a temporary structure to hold and support fresh concrete, stabilize girders, and provide temporary support until the entire structure is self-supporting. The falsework will prevent materials from entering the Madera Canal.
- Work at the Madera Canal Bridge will occur during the dry season when there is no water in the canal, avoiding any impacts to the water conveyance function of the canal.
- Caltrans will ensure that a Caltrans principal architectural historian will review construction plans at the 60 percent and 95 percent constructability phases of the project.
- Caltrans will include monitoring of construction activities at the Madera Canal.

Water Quality and Storm Water Runoff

Short-term construction and long-term operation and maintenance impacts to water quality will be avoided and minimized through implementation of the following:

- The project will comply with the provisions of the Caltrans statewide National Pollutant Discharge Elimination System Permit (Order 2012-0011-DWQ), which became effective July 1, 2013, and if applicable, the Construction General Permit (Order 2009-0009-DWQ).
- Before any ground-disturbing activities, the contractor will be required to prepare a Storm Water Pollution Prevention Plan (per the Construction General Permit Order 2009-0009-DWQ) that includes erosion-control measures and construction waste containment measures so that waters of the State are protected during and after project construction. The project Storm Water Pollution Prevention Plan will be continuously updated to adapt to changing site conditions during the construction phase. The following temporary construction site Best Management Practices are expected:
    - Fiber rolls and/or silt fence for perimeter control.
    - Water that has been in contact with wet concrete will not be discharged onto land until it has been tested and treated (if required).
    - Any discharge to receiving waters will require a permit from the Central Valley Regional Water Quality Control Board.
- Cast-in-place concrete structures will have enough time to cure prior to the rainy season.
- Concrete-treated permeable base will not be used as a permeable material for underdrain systems that discharge to waterways.
- The project will incorporate pollution prevention and design measures consistent with the 2015 Caltrans Stormwater Management Plan to meet water quality objectives. This plan has been revised to comply with the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System Permit (Order 2012-0011-DWQ). In addition to the Best Management Practices already included, the following permanent stormwater treatment Best Management Practices will be considered where feasible:
    - Energy dissipation devices such as rock slope protection or check dams
    - Bioengineered stream bank stabilization methods such as willow wattles or brush layering
- Environmentally Sensitive Areas will be designated and clearly delineated on the contract plans during the design phase to avoid potential discharges and unauthorized disturbances to the creeks, streams, channels and protected riparian areas.

Hazardous Waste and Materials

No mitigation is required for hazardous waste impacts; however, avoidance and minimization measures will be required.

Aerially Deposited Lead

The soil may require special handling and Class I disposal, or the soil can be reused within the project limits per the Agreement as long as all requirements are met. The applicable standard special provision and/or non-standard special provision addressing proper handling and disposal of soil will be provided during the Plans, Specifications, and Estimates phase and included in the construction contract.

Asbestos-Containing Materials, Lead-Based Paint, and Treated Wood Waste

The Asbestos National Emission Standards for Hazardous Air Pollutants regulation, 40 Code of Federal Regulations, Subpart M, Section 61.145 requires written notification of demolition or renovation operations. A written notification to the San Joaquin Valley Unified Air Pollution Control District is required no less than 14 days prior to demolition activities whether asbestos is present or not.

Applicable standard special provisions and/or non-standard special provisions for proper handling and disposal of pavement striping, paint, or markings, and treated wood waste will also be provided during the Plans, Specifications, and Estimates phase and included in the construction contract.

Biological Environment

Natural Communities/Wetlands and Other Waters

The following avoidance and minimization measures will be implemented to protect northern claypan vernal pools, northern hardpan vernal pools, and other waters in the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources.
2. Temporary silt fencing will be installed within the project footprint and delineated as “Environmentally Sensitive Areas” to protect natural communities of concern next to the project footprint from construction-related disturbance. Installation of the fencing will be coordinated with the California Department of Fish and Wildlife. The fencing will be identified in the construction plans and specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction. The proposed fence be made of a material that California tiger salamander cannot climb.
3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.

4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing temporary construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat.
8. Best Management Practices specifically developed for the project will be followed by the contractor. These may include:
    - Installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat.
    - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be re-seeded with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.
11. Pre-construction botanical surveys will be completed within suitable habitat in the project footprint and will follow “Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities” (CDFW 2018) the season prior to construction.
12. If sensitive plant species are found onsite during preconstruction surveys, Caltrans will implement a 25-foot buffer. If a 25-foot buffer is not feasible, coordination with the California Department of Fish and Wildlife will be required.

Compensatory mitigation for all unavoidable direct impacts to vernal pools will be completed to ensure there is no net loss of these hydrologic resources. The specific mitigation ratios will be determined prior to the start of construction, however, a minimum 1:1 compensation ratio should be used. Although the method has not been determined at this time, it could include

any of the following: creation, restoration, preservation, or credit purchase at an approved conservation bank.

Plant Species

The following avoidance and minimization measures will be implemented to protect wetland habitat and non-native grassland that could support the brassy bryum, dwarf downingia, Ewan's larkspur, Hoover's calycadenia, Hoover's cryptantha, Sanford's arrowhead, and spiny-sepaled button-celery within the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources.
2. Temporary silt fencing will be installed within the project footprint and delineated as "Environmentally Sensitive Areas" to protect natural communities of concern next to the project footprint from construction-related disturbance. The fencing will be identified in the Construction Plans and Specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction.
3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.
4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing temporary construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat.

8. Best management practices specifically developed for the project will be followed by the contractor. These may include:
   - Installation of temporary erosion control features that will reduce sediment transport into aquatic resources and sensitive upland habitat.
   - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be re-seeded with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the property is acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.
11. Pre-construction botanical surveys will be completed within suitable habitat in the project footprint and will follow "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (CDFW 2018) the season prior to commencement of ground disturbing activities.

No compensatory mitigation is proposed. However, the mitigation for temporary impacts to wetlands and/or upland habitat for the California tiger salamander will also benefit the brassy bryum spores, dwarf downingia, Ewan's larkspur, Hoover's calycadenia, Hoover's cryptantha, and spiny-sepaled button-celery.

Animal Species

The following avoidance and minimization measures will be implemented to protect non-native grassland that could support American badgers, burrowing owls, California horned larks, loggerhead shrikes, and western spadefoot toads in the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources. The aquatic resources may be suitable habitat for some prey consumed by special-status animals.
2. Temporary silt fencing will be installed within the project footprint and delineated as "Environmentally Sensitive Areas" to protect natural communities of concern next to the project footprint from construction-related disturbance. The fencing will be identified in the Construction Plans and Specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction.

3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.
4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing temporary construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat.
8. Best management practices specifically developed for the project will be followed by the contractor. These may include:
    - Installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat.
    - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be re-seeded with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.

American Badger

Pre-construction surveys will be completed within suitable habitat in the project footprint prior to the start of any ground-disturbing activities. If an American badger burrow/den is observed, it will be avoided and designated as an Environmentally Sensitive Area with orange mesh fencing, if possible. If avoidance is not possible, Caltrans may propose additional minimization measures in coordination with the California Department of Fish and Wildlife, if necessary.

Burrowing Owl

Pre-construction surveys will be completed within suitable habitat to ensure no birds are nesting in or next to the project footprint following the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game, 2012). A total of four surveys may be conducted from February 15 to July 15 or December 1 to January 31, depending on the start of initial ground-disturbing activities. The surveys will be conducted no more than 10 days prior to the start of ground or vegetation disturbance.

If an active owl burrow is observed, it will be avoided and designated as an Environmentally Sensitive Area with orange mesh fencing, if possible. If avoidance is not possible, Caltrans will propose additional minimization measures, including no disturbance buffers for occupied burrows where feasible, from the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game, 2012) in coordination with the California Department of Fish and Wildlife.

Any occupied burrow found on-site requiring excavation will be conducted by a qualified biologist and will only occur during the non-breeding season before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance.

Replacement of occupied burrows with artificial burrows will be at a 1:1 ratio.

In addition, a special provision for migratory birds will be included in the construction contract to ensure that no potential nesting migratory birds are affected during construction.

California Horned Lark/Loggerhead Shrike

Pre-construction migratory bird nest surveys will be completed between February 1 and September 30 for the California horned lark and loggerhead shrike to ensure no birds are nesting in or next to the project footprint. The surveys will be conducted no more than 10 days prior to the start of ground or vegetation disturbance.

If any nesting pairs are identified, additional avoidance and minimization measures will be implemented to avoid direct impacts. These measures include but are not limited to: Environmentally Sensitive Area fencing enclosing the nest; 100-foot “no-work” buffer surrounding the nest; and a biological monitor present during construction activities that occur in proximity to the nest.

Pallid Bat/Western Mastiff Bat

Pre-construction visual and/or acoustic surveys will be completed within suitable habitat in the project footprint prior to the start of any ground-disturbing activities. These surveys should be done between March 1 and November 1. The surveys will be conducted no more than 10 days prior to the

start of ground or vegetation disturbance. If a pallid bat or western mastiff bat roost site is observed, it will be avoided and designated as an Environmentally Sensitive Area with orange mesh fencing, if possible. If avoidance is not possible, Caltrans may propose additional minimization measures in coordination with the California Department of Fish and Wildlife, if necessary.

Western Spadefoot Toad

Additional avoidance and minimization measures to be implemented for the California tiger salamander will also benefit the western spadefoot toad and include:

- All suitable California tiger salamander burrows may be excavated by a qualified biologist following approval of a California tiger salamander relocation plan. Any western spadefoot that are discovered will be relocated to a suitable upland burrow outside of the project footprint, based on prior coordination and approval from the California Department of Fish and Wildlife. Excavation will only occur where Caltrans has legal authority to do so.
- Temporary silt fencing will be installed within the project footprint and delineated as “Environmentally Sensitive Areas” to protect natural communities of concern next to the project footprint from construction-related disturbance. Installation of the fencing will be coordinated with the California Department of Fish and Wildlife. The fencing will be identified in the construction plans and specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction. The proposed fence be made of a material that California tiger salamander cannot climb.
- If a 70% or greater chance of rainfall is predicted within 24 hours of project activity, a qualified biologist will survey the project site for the presence of migrating western spadefoot toads, prior to the start of construction each day that rain is forecasted.
- No project work that could affect migrating western spadefoot toads will occur during or within 48 hours following significant rain events, defined as ¼-inch or more of rain in a 24-hour period.
- For work conducted during the western spadefoot toad migration season (November 1–March 31), a qualified biologist will survey active work areas (including access roads) in the morning, following measurable precipitation that measures less than ¼-inch. Construction may not begin until the biologist has confirmed that no western spadefoot toad is in the work area.

- Basins or trenches greater than 6 inches deep will be covered or have an escape ramp present. These will be checked daily for trapped western spadefoot toads and other wildlife. Before the basins or trenches are filled, they will be thoroughly inspected for trapped wildlife.
- Any pipes or culverts stored on-site must be capped to prevent entry by a western spadefoot toad. Pipes must be inspected before installation to ensure that western spadefoot toads have not taken cover inside. If any western spadefoot toads are found in pipes or culverts, the assigned Caltrans biologist will be notified.
- Vehicle travel will be limited to established roadways, unless otherwise designated. Any travel beyond the paved highway will adhere to a 20-mile-per-hour daytime speed limit and 10-mile-per-hour nighttime speed limit.

No compensatory mitigation is proposed for the American badger, burrowing owl, California horned lark, loggerhead shrike, or western spadefoot toad. However, the mitigation that will be completed to compensate for impacts to upland habitat for the California tiger salamander will also benefit these species that may forage in the project footprint. Also, no compensatory mitigation is proposed for the western mastiff bat.

Threatened and Endangered Species

Avoidance and minimization measures will reduce the potential for adverse effects to federally listed species and designated critical habitats as well as state listed species. To compensate for indirect impacts to upland habitat, disturbed areas within the right-of-way will be reseeded with compost and native species seed mix near the completion of the project.

The following avoidance and minimization measures will be implemented to protect the hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, Crotch bumble bee, California tiger salamander, San Joaquin kit fox, Swainson's hawk, tricolored blackbird, and vernal pool fairy shrimp as well as designated critical habitat for the hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent (fleshy) owl's clover, and vernal pool fairy shrimp in the project footprint:

1. A stormwater pollution prevention plan will be prepared specifically for the project that will include measures to reduce impacts to aquatic resources.
2. Temporary silt fencing will be installed within the project footprint and delineated as "Environmentally Sensitive Areas" to protect natural communities of concern next to the project footprint from construction-related disturbance. The fencing will be identified in the construction plans and specifications as part of the bid package to contractors. The fence will measure at least 2 feet high and will be buried a minimum of 4 inches with wood stakes placed along the fence to keep it taut. A qualified biologist will be present during the fence installation and will perform weekly site visits to ensure the fence remains intact for the duration of construction.

3. A worker environmental awareness training will be provided for all construction personnel prior to the start of any ground-breaking activities to discuss the avoidance and minimization measures in place for the protection of natural communities of concern and other biological resources.
4. A qualified biological monitor will be present during initial ground disturbance, which may include archaeological excavation, utility relocation, and clearing and grubbing activities to ensure avoidance and minimization measures are carried out by the contractor.
5. The stockpiling of materials, equipment (including portable equipment), vehicles, and supplies (including chemicals) will be restricted to designated construction staging areas to exclude or avoid natural communities of concern and other sensitive biological resources.
6. Wetland mats will be used in vernal pools and other sensitive aquatic habitat within the project footprint where temporary impacts are expected. Wetland mats provide solid footing for heavy equipment and vehicles during project construction. They protect vernal pools by minimizing indirect construction impacts and are removed prior to project completion.
7. An emergency spill prevention plan will be prepared that includes measures to minimize the risk of fluids or other materials (oils, transmission and hydraulic fluids, cement, fuel) from entering aquatic resources and sensitive upland habitat. The emergency spill prevention plan will be kept at the project site throughout the duration of construction.
8. Best Management Practices specifically developed for the project will be followed by the contractor. These may include:
    - Installation of temporary erosion control features that may reduce sediment transport into aquatic resources and sensitive upland habitat.
    - Installation of measures to ensure water quality is protected.
9. Once construction is complete, all areas disturbed within the right-of-way will be re-seeded with compost and native hydroseed mix.
10. Wetland delineation surveys will be done east of State Route 41 when the properties are acquired by Caltrans to accurately identify wetlands and other waters prior to construction. These surveys may identify special-status plants that may be avoided or minimized during construction.

Succulent (Fleshy) Owl's Clover, Hairy Orcutt Grass, and San Joaquin Valley Orcutt Grass

Standard avoidance and minimization measures for the succulent (fleshy) owl's clover, hairy Orcutt grass, and San Joaquin Valley Orcutt grass include conducting pre-construction botanical surveys within suitable aquatic habitat in the project footprint prior to the start of construction. If these species are observed within the project footprint during the pre-construction botanical

surveys and can be avoided, they will be protected by environmentally sensitive fencing. For any individuals that cannot be avoided, Caltrans will initiate formal consultation with the U.S. Fish and Wildlife Service to address any adverse effects to the species. Additional minimization measures may include transplanting seeds and/or plants to the Madera Pools Mitigation Site.

The following avoidance and minimization measures are for designated critical habitat for the succulent (fleshy) owl's clover, hairy Orcutt grass, San Joaquin Valley Orcutt grass:

- Construction activities will be restricted to the minimum amount of habitat necessary within the project footprint to ensure the least amount of disturbance to designated critical habitat.
- Wetland mats will be used in seasonal wetlands, seasonal wetland swales, and vernal pools within the project footprint where temporary impacts will occur to protect designated critical habitat.
- Access, egress, and ground-disturbing activities will be sited to avoid seasonal wetlands, seasonal wetland swales, and vernal pools, where feasible.

Crotch Bumble Bee

Avoidance and minimization measures to be implemented for the Crotch bumble bee include pre-construction surveys in the project footprint by qualified biologists to determine if Crotch bumble bees are present. If Crotch bumble bees are identified, a biologist will attempt to follow the bee to determine the location of an underground nest. Any nests will be recorded with a global positioning system device.

A "no-work" buffer of 50 feet will be established during construction, if possible, to avoid the nests. If the nest cannot be avoided by 50 feet, coordination with the California Department of Fish and Wildlife may be necessary. In addition, the Standard Special Provision for invasive species will be included in the construction contract.

Vernal Pool Fairy Shrimp/Designated Critical Habitat for Vernal Pool Fairy Shrimp

The following avoidance and minimization measures are for designated critical habitat for the vernal pool fairy shrimp:

- Construction activities will be restricted to the minimum amount necessary within the project footprint to ensure the least amount of disturbance to designated critical habitat.
- Wetland mats will be used in seasonal wetlands, seasonal wetland swales, and vernal pools within the project footprint where temporary impacts will occur to protect vernal pool fairy shrimp cysts.

- Access, egress, and ground-disturbing activities will be sited to avoid seasonal wetlands, seasonal wetland swales, and vernal pools, where feasible.

California Tiger Salamander

The following avoidance and minimization measures are for the California tiger salamander:

- All suitable small mammal burrows may be excavated by a U.S. Fish and Wildlife Service-approved and California Department of Fish and Wildlife-approved biologist following approval of a relocation plan. Any California tiger salamanders that are discovered will be relocated to a suitable upland burrow outside of the project footprint, based on prior coordination and approval from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Excavation will only occur where Caltrans has legal authority to do so.
- If a 70% or greater chance of rainfall is predicted within 24 hours of project activity, a qualified biologist will survey the project site for the presence of migrating California tiger salamanders, prior to the start of construction each day that rain is forecasted.
- No project work that could affect migrating salamanders will occur during or within 48 hours following significant rain events, defined as ¼-inch or more of rain in a 24-hour period.
- For work conducted during the California tiger salamander migration season (November 1–March 31), a qualified biologist will survey active work areas (including access roads) in the morning, following measurable precipitation that measures less than ¼-inch. Construction may not begin until the biologist has confirmed that no California tiger salamanders are in the work area.
- Basins or trenches greater than 6 inches deep will be covered or have an escape ramp present. These will be checked daily for trapped California tiger salamanders and other wildlife. Before the basins or trenches are filled, they will be thoroughly inspected for trapped wildlife.
- Any pipes or culverts stored on-site must be capped to prevent entry by a California tiger salamander. Pipes must be inspected before installation to ensure that salamanders have not taken cover inside. If any California tiger salamanders are found in pipes or culverts, the assigned Caltrans biologist will be notified.
- Vehicle travel will be limited to established roadways unless otherwise designated. Any travel beyond the paved highway will adhere to a 20-mile-per-hour daytime speed limit and 10-mile-per-hour nighttime speed limit.
- Caltrans will coordinate with the California Department of Fish and Wildlife on the location and timing of installation of ESA fencing for protection of

California tiger salamander. This was added after the draft environmental document.

- Caltrans proposes to implement a 2:1 ratio for potential impacts to California tiger salamander.

Tricolored Blackbird

Pre-construction migratory bird nest surveys will be completed between February 1 and September 30 to ensure no birds are nesting in or next to the project footprint. The surveys will be conducted no more than 10 days prior to the start of ground or vegetation disturbance.

If any nesting pairs are identified, additional avoidance and minimization measures will be implemented to avoid direct impacts. These measures include but are not limited to: Environmentally Sensitive Area fencing enclosing the nest; 100-foot “no-work” buffer surrounding the nest; and a biological monitor present during construction activities that occur in proximity to the nest. In addition, a special provision for migratory birds will be included in the construction contract to ensure that no potential nesting migratory birds are affected during construction.

Swainson’s Hawk

Protocol nesting surveys in accordance with the *Recommended Timing and Methodology for Swainson’s Hawk in California’s Central Valley* will be completed the season prior to construction to determine if any Swainson’s hawks are nesting in the project area. The surveys will also be conducted no more than 10 days prior to the start of ground or vegetation disturbance.

If any nesting pairs are identified within the project footprint, additional avoidance and minimization measures will be implemented to avoid direct impacts. These measures include but are not limited to: Environmentally Sensitive Area fencing enclosing the nest tree; 500-foot “no-work” buffer surrounding the nest; and a biological monitor present during construction activities that occur in proximity to the nest. Coordination with the California Department of Fish and Wildlife will be done following the protocol nest survey to discuss these measures and determine if a 2081 Incidental Take Permit is warranted.

In addition, a special provision for migratory birds will be included in the construction contract to ensure that no potential nesting migratory birds are affected during construction.

San Joaquin Kit Fox

The following avoidance and minimization measures are for the San Joaquin kit fox.

- Pre-construction surveys will be completed no more than 30 days prior to the start of any ground-disturbing activities to determine the potential for presence of the San Joaquin kit fox within the project footprint.
- If any San Joaquin kit foxes are observed during the course of project activities, they will be allowed to leave the area unharmed and on their own volition and Caltrans will notify the U.S. Fish and Wildlife Service.

Compensatory Mitigation

Direct impacts including permanent and temporary impacts to vernal pool fairy shrimp habitat and upland habitat and temporary aquatic habitat for the California tiger salamander will be compensated for at a 2:1 ratio. Indirect impacts to temporary aquatic habitat for the California tiger salamander and vernal pool fairy shrimp will be compensated at 1:1 ratio. This action will also benefit potential habitat for the succulent (fleshy) owl's clover, hairy Orcutt grass, San Joaquin Valley Orcutt grass, Crotch bumble bee, vernal pool fairy shrimp, Swainson's hawk, tricolored blackbird, and San Joaquin kit fox, as well as designated critical habitat for associated species.

Table A-1 shows the impact areas, compensation ratios, and mitigation acreage that will be used to compensate for impacts to vernal pool fairy shrimp habitat. The direct and indirect impacts resulting from the project total 1.28 acres. The project will need to compensate for a total of 1.81 acres for impacts to vernal pool fairy shrimp habitat.

Table A-1 Mitigation for Impacts to Vernal Pool Fairy Shrimp Habitat

Habitat	Impact Type	Acres	Compensation Ratio	Mitigation (acres)
Pools with vernal pool fairy shrimp present	Direct	0.071	2:1	0.142
Pools with vernal pool fairy shrimp habitat present	Direct	1.778	2:1	3.556
Pools with fairy shrimp present	Direct	0.0148	2:1	0.296
Pools with vernal pool fairy shrimp present	Indirect	0.0000	1:1	0.0000
Pools with vernal pool fairy shrimp habitat present	Indirect	0.125	1:1	0.125
Pools with fairy shrimp present	Indirect	0.000	1:1	0.0000

Source: Natural Environment Study, October 2019, revised May 2020

Table A-2 shows the impact areas, compensation ratios, and mitigation acreage that will be used to compensate for impacts to California tiger salamander habitat. The permanent and indirect impacts resulting from the project total 8.74 acres. The project will need to compensate for a total of 24.80 acres for impacts to the California tiger salamander.

Table A-2 Mitigation for Impacts to California Tiger Salamander Habitat

Habitat	Impact Type	Acres	Compensation Ratio	Mitigation (acres)
Upland Refugia	Direct	23.093	2:1	46.186
Temporary Aquatic	Direct	2.147	2:1	4.294
Temporary Aquatic	Indirect	0.125	1:1	0.125

Source: Natural Environment Study, October 2019, revised May 2020

It is expected that impacts to vernal pool fairy shrimp and California tiger salamander habitat will be offset through available credits at the Caltrans Madera Pools Mitigation site. If California tiger salamander credits are not available at the Madera Pools Mitigation Site, Caltrans may purchase credits at the proposed Fenston Ranch Conservation Bank, which is currently in the process of obtaining approval from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

No compensatory mitigation is proposed for the Crotch bumble bee at this time. However, based on pre-construction survey results and listing status prior to construction, Caltrans may need to coordinate with the California Department of Fish and Wildlife regarding the need for a 2081 Incidental Take Permit and compensatory mitigation for this species.

Invasive Species

To prevent the further spread of these species, as well as the introduction of new invasive species, the following measures will be implemented for the project:

- All areas disturbed by project construction will be reestablished with compost and native hydroseed mix
- Additional specifications to prevent the spread of, or eradicate, invasive species may be included in the construction contract.

Construction Impacts

Air Quality

Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 14-9.02 “Air Pollution Control” and Section 10-5 “Dust Control,” require the contractor to comply with the air pollution control rules, ordinances, and regulations and statutes that apply to work performed under the contract, including those provided in Government Code Section 11017.

Appendix E Farmland Conversion Impact Rating

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 4/8/19	4. Sheet 1 of 1
1. Name of Project **Ranchos Rehabilitation**	5. Federal Agency Involved **Federal Highway Administration (FHWA)**	
2. Type of Project **Transportation**	6. County and State **Madera, CA**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 5/22/19	2. Person Completing Form Luis Alvarez
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated 292,274 / Average Farm Size 434
5. Major Crop(s) **Orchards**	6. Farmable Land in Government Jurisdiction Acres: 304,248 % 22.1	7. Amount of Farmland As Defined in FPPA Acres: 237,572 % 17.2
8. Name Of Land Evaluation System Used **CA Revised Storie Index**	9. Name of Local Site Assessment System **None**	10. Date Land Evaluation Returned by NRCS 5/29/19

PART III *(To be completed by Federal Agency)*		Alternative Corridor For Segment			
		Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly		18.82			
B. Total Acres To Be Converted Indirectly, Or To Receive Services		0			
C. Total Acres In Corridor		18.82			
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland		0.4			
B. Total Acres Statewide And Local Important Farmland		9.7			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0.004			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		60			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		47			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	13			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	0			
4. Protection Provided By State And Local Government	20	20			
5. Size of Present Farm Unit Compared To Average	10	2			
6. Creation Of Nonfarmable Farmland	25	0			
7. Availablility Of Farm Support Services	5	1			
8. On-Farm Investments	20	1			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	0			
TOTAL CORRIDOR ASSESSMENT POINTS	160	47	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	47	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	47	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	94	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
Corridor A	18.82	12/13/19	YES ☐ NO ☑

5. Reason For Selection:

The project is moving forward with only one build alternative.

Signature of Person Completing this Part: [signature] DATE 12/13/19

NOTE: Complete a form for each segment with more than one Alternate Corridor

Appendix F State Office of Historic Preservation Concurrence Letter

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Lisa Ann L. Mangat, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

January 24, 2020 In reply refer to: FHWA_2019_0604_001

VIA ELECTRONIC MAIL

Ms. Janice Calpo, Acting Section 106 Coordinator
Caltrans Cultural Studies Office
Caltrans Division of Environmental Analysis
1120 N Street, MS-27, Sacramento, CA 95814

Subject: Finding of Adverse Effect for the Madera SR 41 Roadway Rehabilitation Project, Madera County, CA; 06-MAD-41, PM 6.1/9.4, OHP File FHWA_2019_0604_001

Dear Ms. Calpo:

On December 30, 2019, the Office of Historic Preservation received a letter from the Department of Transportation (Caltrans) for the above referenced undertaking. Caltrans (District 6-Fresno) is continuing consultation with the State Historic Preservation Officer (SHPO) in accordance with the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (Section 106 PA)*. Enclosed documentation is a "Finding of Adverse Effect for the Madera 41 Roadway Rehabilitation Project, Madera County, California; December 2019", which describes the project and provides documentation for the finding. Caltrans, in applying the criteria of adverse effect, proposes a Finding of Adverse Effect for archaeological site CA-MAD-1503, which is bisected by the existing roadway and a culvert.

Caltrans proposes to rehabilitate State Route 41 (SR 41) along a 3.1-mile long portion that is located from 0.1 miles north of its intersection with Avenue 15 to the intersection at SR 145. Work scope is to reconstruct a two-lane conventional highway, which will include widening the bridge over the Madera Canal along with fiber optic and electrical upgrades, widening shoulders to standard 8-foot outside width, replacing and/or adding culverts, adding side gutters with earth berms for drainage, and raising the profile as needed. The proposed road widening over the existing culvert and additional ground disturbing activities at site CA-MAD-1503 will have an Adverse Effect on CA-MAD-1503.

The Area of Potential Effects (APE) includes all work areas within existing Caltrans Right-of-Way (ROW) and proposed additions, areas for staging, temporary construction easements, and utility relocations, and the entire boundary of site CA-MAD-1503, as well as sufficient area for construction at the bridge and its approaches (the APE map is depicted on sheets 1 through 3 of the finding report).

Caltrans District 06, pursuant to Section 106 PA Stipulation X.B.2.a, is submitting a finding that supports its conclusion that the Madera Canal will not suffer any adverse impacts from the bridge work project component. Pursuant to Stipulation X.C.2, Caltrans states that the enclosed Finding of Effect document supports the Adverse Effect Finding for CA-MAD-1503.

Therefore, Caltrans proposes to conduct an archaeological data recovery investigation in order to mitigate the adverse effects to this historic property, which is archaeological site CA-MAD-1503. In addition, an Environmentally Sensitive Area (ESA) Action Plan will also be implemented to protect two separate archaeological sites CA-MAD-1505 and MAD-1912, which are adjacent to the roadway APE, from project effects.

- Pursuant to Stipulation X.B.2.a of the Section 106 PA, Caltrans has found that the proposed undertaking will have **No Adverse Effect to the historic property, the Madera Canal**. Based on review of the submitted documentation, **I do not object.**

- Pursuant to Stipulation X.C.2 of the Section 106 PA, Caltrans finds that the proposed undertaking will have an **Adverse Effect to the historic property, archaeological site CA-MAD-1503.** Based on review of the submitted documentation, **I agree.**

I look forward to continuing consultation for this undertaking after Caltrans has prepared the described additional documents for submittal.

Should you require further information, please contact either Natalie Lindquist, Historian, at (916) 445-7014 or Natalie.Lindquist@parks.ca.gov or Jeanette Schulz, Archaeologist, (916) 445-7031 or at Jeanette.Schulz@parks.ca.gov .

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Appendix G Memorandum of Agreement

MEMORANDUM OF AGREEMENT

BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADERA 41 ROADWAY REHABILITATION PROJECT, MADERA COUNTY, CALIFORNIA

WHEREAS, the Federal Highway Administration (FHWA) has assigned, and the California Department of Transportation (Caltrans) has assumed, FHWA responsibility for environmental review, consultation, and coordination under the provisions of the *Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327*, which became effective on December 23, 2016, and applies to this undertaking; and

WHEREAS, pursuant to the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA), Caltrans is deemed to be a federal agency for all highway-aid projects it has assumed, and in that capacity Caltrans has assigned the role of "agency official" to the Caltrans Division of Environmental Analysis (DEA) Chief for the purpose of compliance with 36 CFR Part 800. The responsibility for oversight, day-to-day responsibilities and coordination of the Section 106 process are further delegated to the DEA Cultural Studies Office (CSO) Chief; and

WHEREAS, Caltrans proposes to construct the federally funded Madera 41 Roadway Rehabilitation Project (Undertaking), where State Route 41 will be widened and raised beyond the current right-of-way as described in Attachment A to this Memorandum of Agreement (MOA); and

WHEREAS, the Undertaking's Area of Potential Effects (APE), provided in Attachment B, includes the current Caltrans right-of-way along State Route (SR) 41 within the project postmiles, an additional 40 feet to the east and west of the current right of way limits, the known or reasonably anticipated boundaries of archaeological and cultural properties, and any locations where construction activities will take place; and

WHEREAS, Caltrans has determined that the Undertaking has the potential to effect three archaeological sites: CA-MAD-1503, CA-MAD-1505, and CA-MAD-1912, which are within the Undertaking's APE; and

WHEREAS, Caltrans has assumed sites CA-MAD-1505 and CA-MAD-1912 to be eligible for the National Register of Historic Places (National Register) under Criterion D for the purposes of this project only, pursuant to Stipulation VIII.C.3 of the Section 106 PA, and will protect both from adverse effects through the establishment of Environmental Sensitive Areas (ESA); and

WHEREAS, Caltrans has determined, in consultation with the State Historic Preservation Officer (SHPO), that CA-MAD-1503 is eligible for listing in the National Register under Criteria A and D, and therefore is a historic property as defined at 36 CFR § 800.16(1)(1); and

WHEREAS, Caltrans has determined that the Undertaking will have an adverse effect to CA-MAD-1503; and

WHEREAS, Caltrans has consulted with the SHPO pursuant to Stipulation X.C and XI of Section 106 PA, where the Section 106 PA so directs, in accordance with 36 CFR § 800, the regulation that implements Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, regarding the Undertaking's effect on historic properties, will notify the Advisory Council on Historic Preservation (ACHP) of the adverse effect finding pursuant to 36 CFR § 800.6(a)(1), and will file a copy of this MOA with the ACHP in accordance with Stipulation X.C.3.b of the Section 106 PA; and

WHEREAS, Caltrans has thoroughly considered alternatives to the Undertaking, has determined that the Undertaking's adverse effects to CA-MAD-1503 cannot be avoided, and that implementation of the treatments set forth in Stipulation II of this MOA will take into account the Undertaking's adverse effects on the historic property; and

WHEREAS, Caltrans District 6 has a responsibility to fulfill the terms of this MOA and is participating as an invited signatory; and

WHEREAS, Caltrans has consulted with North Fork Rancheria of Mono Indians of California, North Fork Mono Tribe, Table Mountain Rancheria, and Picayune Rancheria regarding the Undertaking and has invited them to be concurring parties to this MOA;

NOW, THEREFORE, Caltrans and the SHPO agree that if the Undertaking proceeds, the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties, and further agree that these stipulations shall govern the Undertaking and all of its parts until this MOA expires or is terminated.

STIPULATIONS

Caltrans shall ensure that the following measures are carried out:

I. AREA OF POTENTIAL EFFECTS

A. The APE was designed in accordance with Stipulation VIII.A of the Section 106 PA and is depicted in Attachment B of this MOA. The APE was delineated to include all areas where work is proposed, including the known or reasonably anticipated boundaries of archaeological and cultural properties and any location where construction activities will take place.

B. If Caltrans determines that additional APE revisions are necessary, Caltrans shall inform the parties to the MOA of the revisions and consult for no more than 15 days to reach agreement on the proposed revisions. If Caltrans, the SHPO, and other appropriate signatories cannot reach such agreement, then the parties to this MOA shall resolve the dispute in accordance with the Stipulation VI.C below. If all parties reach mutual agreement on the proposed revisions, Caltrans will submit a new APE map reflecting the revisions, consistent with Stipulation III.A and Attachment 3 of the Section 106 PA, no later than 30 days following such agreement. Any further investigation or documented necessitated by the revised APE will follow the procedures for the identification and evaluation of potential Historic properties as specified in Stipulation VIII of the Section 106 PA and in accordance with 36 CFR §800.4(a)(2-4) and 88.4(b). Amendment of the APE will not require an amendment to the MOA. The revised APE and supporting documentation shall be incorporated into Attachment B to this MOA.

II. TREATMENT OF HISTORIC PROPERTIES

A. Data Recovery Plan

i. Caltrans shall ensure that the adverse effects of the Undertaking to CA-MAD-1503 are resolved by implementing and completing the tasks identified within the February 2020 *Data Recovery Plan for CA-MAD-1503* (DRP) that is Attachment C of this MOA. Phase III data recovery is prescribed for the archaeological deposits within the Undertaking's APE that contribute to the National Register eligibility of the historic property.

ii. Caltrans will develop a draft and final Phase III Proposal prior to conducting data recovery, given the expected passage of time between the execution of this MOA and the implementation of fieldwork.

iii. Each MOA signatory party shall have the right to review, comment on, recommend revisions to, and approve or disapprove the draft and final versions of the Phase III Proposal. Each concurring party shall have the right to review, comment on, and recommend revisions to each. Upon receipt, each party will be given an initial review period of 30 days. At the end of this period, any feedback given will be addressed by District 6 within a reasonable timeframe, not to exceed the original review period. Once all comments have been addressed, and any revisions made, the approved versions of any documents will be disseminated to each of the MOA parties.

iv. Any MOA party may propose amendments to the DRP. Such amendments will not require amendment of this MOA. Disputes regarding amendments proposed hereunder shall be resolved in accordance with Stipulation V.C below. Caltrans shall address objections through further consultation among the MOA parties within the timeframes set out in Sections V.C.1-2 below. If the dispute is resolved within this time frame, the MOA parties shall proceed in accordance with the terms of that resolution. If the dispute is not resolved within this time frame, Caltrans shall render a final decision regarding the dispute and the MOA parties shall proceed in accordance with the terms of that decision.

B. Environmentally Sensitive Area

i. An ESA Action Plan (Attachment D) has been prepared to protect the entirety of CA-MAD-1505 and CA-MAD-1912, as well as the portions of CA-MAD-1503 located outside the Undertaking's APE, from any effects that result from the Undertaking.

ii. In accordance with Stipulation VI of this MOA, if District 6 determines that revision to the current ESAs are necessary, District 6 will assess whether the changes would result in adverse effects not addressed by the MOA and DRP.

1. Should District 6 determine the ESA change would not result in additional adverse effects, District 6 shall inform all MOA parties of the revisions and afford a 15-day opportunity to object.

2. Should District 6 determine the ESA change would result in adverse effects not addressed by this MOA and DRO, District 6 shall request Caltrans reinitiate consultation with the SHPO and the concurring tribes regarding the additional effects. If there are no objections, District 6 shall move forward with the revisions to the ESA Action Plan, which will then be provided to the consulting parties. Development of

additional treatment measures to resolve effects, if necessary, will be done in consultation with all MOA parties, and any agreed upon treatment measures will be incorporated into the current MOA by means of an amendment

C. Monitoring Plan

i. Caltrans shall facilitate archaeological and Native American monitoring during construction of the Undertaking. District 6, In consultation with the MOA Parties, shall prepare a draft and final Monitoring Plan that will guide the implementation of monitoring activities. The Monitoring Plan will provide appropriate protocols governing communication, the stoppage of work during construction, and identifying and treating cultural materials that may still constitute significant deposits or features after the completion of the Phase III data recovery investigations.

ii. Each MOA party shall have the right to review, comment on, and recommend revisions to the draft Monitoring Plan. Upon receipt, each party will be given an initial review period of 30 days. At the end of this period, any feedback given will be addressed by District 6 within a reasonable timeframe not to exceed the original review period. Once all comments have been addressed, and any revisions made, the final Monitoring Plan will be disseminated to each MOA party.

D. Caltrans will not authorize the execution of any Undertaking activity that may affect historic properties in the Undertaking's APE until the requirements set forth in paragraphs A, B, and C of this stipulation have been met.

E. Ethnographic Study

i. Caltrans shall develop a draft and final Ethnographic Study for use as a reference in future transportation projects. The study will update the cultural background and tribal affiliations of the project area and include a discussion of tribally recommended ethnographies and native histories.

ii. Each MOA party shall have the right to review, comment on, and recommend revisions to the draft ethnographic study. Upon receipt, each party will be given an initial review period of 30 days. At the end of this period, any feedback given will be addressed by District 6 within a reasonable timeframe not to exceed the original review period. Once all comments have been addressed, and any

revisions made, the final ethnographic study will be disseminated to each MOA party.

F. Reporting Requirements and Related Reviews

i. Data Recovery Plan

1. Within thirty (30) days after District 6 has determined that all fieldwork required under Stipulation II.A has been completed, District 6 will ensure preparation and concurrent distribution to the CSO and other MOA parties a brief letter report that summarizes the field efforts and the preliminary findings that resulted from them. The MOA parties will have thirty (30) days from the date of receipt to review and comment on the preliminary findings. Comments will be shared with SHPO prior to finalization of the letter report. The finalized letter report will subsequently be distributed to MOA parties for their records.

2. Within twelve (12) months after District 6 has determined that all fieldwork required by Stipulation II.A has been completed, District 6 will ensure preparation and concurrent distribution to CSO and the other MOA parties for review and comment, a draft Data Recovery Report (DRR) that documents the results of implementing and completing the DRP. The MOA parties will be afforded thirty (30) days following receipt of the draft DRR to submit any written comments to District 6. Failure of these parties to respond within this time frame shall not preclude District 6 from authorizing revisions to the draft DRR and issuing the final DRR, as District 6 may deem appropriate.

3. District 6 will take all comments into account in revising the DRR and submit a final version to CSO for approval. Upon approval, CSO will transmit the DRR to the SHPO along with any comments from the MOA parties that were not addressed in the report. The SHPO will have thirty (30) days to comment on the report. If the SHPO does not respond within thirty (30) days, District 6 may consider the submitted report as final. The SHPO may request a fifteen (15) day extension if needed.

4. District 6 will provide consulting parties with written documentation indicating the comments received and how the draft technical report will be modified. Unless a MOA party objects to this approach in writing to District 6 within thirty (30) days following receipt of the comments, District 6

may modify the draft technical report, as District 6 deems appropriate. Thereafter, District 6 may issue the technical report in final form and distribute this document in accordance with paragraph 5 of this Stipulation.

5. Copies of the final technical report will be distributed by District 6 to the MOA parties (taking the need for confidentiality of certain information into consideration) and to the California State University, Stanislaus of the California Historical Resources Information System (CHRIS).

ii. Monitoring Plan

1. Within thirty (30) days after District 6 has determined that all fieldwork required under Stipulation II.C has been completed, District 6 will ensure preparation and concurrent distribution to the MOA parties a brief letter report that summarizes the field efforts and the preliminary findings that resulted from them. If no new historic properties were identified during fieldwork, District 6 shall indicate so in the letter report, which will constitute the final documentation required under the stipulation.

2. If previously unknown historic properties are identified during fieldwork under Stipulation II.C, District 6 will ensure preparation and concurrent distribution to CSO and the other MOA parties for review and comment, a draft Monitoring Report within twelve (12) months after District 6 has determined that all fieldwork required by Stipulation II.C has been completed. The draft Monitoring Report will document the results of implementing and completing the Monitoring Plan. The MOA parties will be afforded thirty (30) days following receipt of the draft Monitoring Report to submit any written comments to District 6. Failure of these parties to respond within this time frame shall not preclude District 6 from authorizing revisions to the draft Monitoring Report and issuing the final Monitoring Report, as District 6 may deem appropriate.

    a. District 6 will take all comments into account in revising the draft Monitoring Report and submit a final version to CSO for approval. Upon approval, CSO will transmit the Monitoring Report to the SHPO along with any comments from the MOA parties that were not addressed in the report. The SHPO will have thirty (30) days to comment on the report. If the SHPO does not

respond within thirty (30) days, District 6 may consider the submitted report as final. The SHPO may request a fifteen (15) day extension if needed.

b. District 6 will provide consulting parties with written documentation indicating the comments received and how the draft Monitoring Report will be modified. Unless a MOA party objects to this approach in writing to District 6 within thirty (30) days following receipt of the comments, District 6 may modify the draft report, as District 6 deems appropriate. Thereafter, District 6 may issue the report in final form and distribute this document in accordance with paragraph 5 of this Stipulation.

c. Copies of the final Monitoring Report will be distributed by District 6 to the MOA parties (taking the need for confidentiality of certain information into consideration) and to the California State University, Stanislaus of the California Historical Resources Information System (CHRIS).

III. NATIVE AMERICAN CONSULTATION

Caltrans has consulted with the North Fork Rancheria of Mono Indians of California, North Fork Mono Tribe, Table Mountain Rancheria, and Picayune Rancheria regarding the proposed Undertaking and its effect on historic properties, and has invited the North Fork Rancheria of Mono Indians of California, North Fork Mono Tribe, Table Mountain Rancheria, and Picayune Rancheria (Tribes) to be concurring parties to this MOA. Caltrans will continue to consult with the Tribes, and will afford them, should they so desire, the opportunity to participate in the implementation of this MOA and the Undertaking. Caltrans will make an effort to reach consensus with them regarding the manner in which they may participate in the implementation of this MOA, and regarding any time frames or other matters that may govern the nature, scope, and frequency of such participation. Caltrans shall ensure that the Tribes receive copies of all draft and final technical documents regardless of whether they decline or choose to participate as a concurring party to this MOA. If other tribes or Native American groups who attach religious or cultural significance to historic properties that may be affected by the Undertaking are identified, Caltrans will invite them to participate as consulting parties as the Section 106 process moves forward.

IV. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN

A. The MOA parties agree that human remains and related items discovered during the implementation of the terms of this MOA and of the

Undertaking will be treated in accordance with the requirements of § 7050.5(b) of the California Health and Safety Code. If, pursuant to § 7050.5(c) of the California Health and Safety Code, the county coroner/medical examiner determines that the human remains are or may be of Native American origin, then the discovery shall be treated in accordance with the provisions of § 5097.98(a)-(d) of the California Public Resources Code. The County Coroner shall be contacted if human remains are discovered. The County Coroner shall have two working days to inspect the remains after receiving. During this time, all remains, associated soils, and artifacts shall remain in situ and/ or on site, and shall be protected from public viewing. This may include restricting access to the discovery site and the need to hire 24 hour security.

B. The County Coroner has twenty-four (24) hours to notify the NAHC. The NAHC shall then notify a Most Likely Descendant (MLD), who has forty-eight (48) hours to make recommendations to Caltrans, the landowner. Caltrans, as the landowner, shall contact the California SHPO and the Most Likely Descendent(s) within twenty-four (24) hours of the County Coroner's determination that the remains are Native American in origin. Caltrans shall ensure that, to the extent permitted by applicable law and regulation, the views of the Most Likely Descendent(s) are taken into consideration when decisions are made about the disposition of other Native American materials, remains, and records. Caltrans shall take appropriate measures to protect the discovery site from disturbance during any negotiations. Information concerning the discovery shall not be disclosed to the public pursuant to the specific exemption set forth in California Government Code Section 6254.5(e).

V. DISCOVERIES AND UNANTICIPATED EFFECTS

If Caltrans determines after construction of the Undertaking has commenced, that either the Undertaking will affect a previously unidentified property that may be eligible for the National Register, or affect a known historic property in an unanticipated manner, Caltrans shall address the discovery or unanticipated effect in accordance with Stipulation XV.B of the Section 106 PA and 36 CFR §800.13(b)(3). Caltrans at its discretion may hereunder and pursuant to 36 CFR §800.13(c) assume any discovered property is eligible for inclusion in the National Register.

VI. ADMINISTRATIVE PROVISIONS

A. STANDARDS

i. **Definitions.** The definitions provided at 36 CFR § 800.16 are applicable throughout this MOA.

ii. Parties to this agreement are defined as follows:

1. Signatory parties have the sole authority to execute, amend or terminate the MOA.
2. Invited signatories have the authority to amend or terminate the MOA.
3. Concurring parties signing the MOA do so to acknowledge their agreement or concurrence with the MOA but have no legal authority under the MOA to terminate or amend the MOA. Concurring with the terms of the MOA does not constitute their agreement with the Undertaking.

iii. **Professional Qualifications.** Caltrans will ensure that only individuals meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-39) in the relevant field of study carry out or review appropriateness and quality of the actions and products required by Stipulations I, II, III, V, and VI in this MOA. However, nothing in this stipulation may be interpreted to preclude Caltrans or any agent or contractor thereof from using the properly supervised services of persons who do not meet the PQS.

iv. **Documentation Standards.** Written documentation of activities prescribed by Stipulations I, II, III, and V of this MOA shall conform to *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-44740) as well as to applicable standards and guidelines established by the SHPO.

v. **Curation and Curation Standards.** Caltrans shall ensure that, to the extent permitted under §5097.98 and §5097.991 of the California Public Resources Code, the materials and records resulting from the activities prescribed by this MOA are curated in accordance with 36 CFR §79.

B. **CONFIDENTIALITY**

The MOA parties acknowledge that the historic properties covered by this MOA are subject to the provisions of § 304 of the NHPA and § 6254.10 of the California Government Code (Public Records Act), relating to the disclosure of archaeological site information and, having so acknowledged, will ensure that all actions and documentation prescribed by this MOA are consistent with said sections.

C. **RESOLVING OBJECTIONS**

i. Should any party to this MOA object at any time in writing to the manner in which the terms of this MOA are implemented, to any action carried out or proposed with respect to implementation of the MOA (other than the Undertaking itself), or to any

documentation prepared in accordance with and subject to the terms of this MOA, Caltrans shall immediately notify the other MOA parties of the objection, request their comments on the objection within 15 days following receipt of Caltrans' notification, and proceed to consult with the objecting party for no more than 30 days to resolve the objection. Caltrans will honor the request of the other parties to participate in the consultation and will take any comments provided by those parties into account.

ii. If the objection is resolved during the 30-day consultation period, Caltrans may proceed with the disputed action in accordance with the terms of such resolution.

iii. If at the end of the 30-day consultation period, Caltrans determines that the objection cannot be resolved through such consultation, then Caltrans shall forward all documentation relevant to the objection to the ACHP, including Caltrans' proposed response to the objection, with the expectation that the ACHP will, within 30 days after receipt of such documentation:

    1. Advise Caltrans that the ACHP concurs in Caltrans' proposed response to the objection, whereupon Caltrans will respond to the objection accordingly. The objection shall thereby be resolved; or

    2. Provide Caltrans with recommendations, which Caltrans will take into account in reaching a final decision regarding its response to the objection. The objection shall thereby be resolved; or

    3. Notify Caltrans that the objection will be referred for comment pursuant to 36 CFR § 800.7(c) and proceed to refer the objection and comment. Caltrans shall take the resulting comments into account in accordance with 36 CFR § 800.7(c)(4) and Section 110(1) of the NHPA. The objection shall thereby be resolved.

iv. Should the ACHP not exercise one of the above options within 30 days after receipt of all pertinent documentation, Caltrans may proceed to implement that response. The objection shall thereby be resolved.

v. Caltrans shall take into account any of the ACHP recommendations or comments provided in accordance with this stipulation with reference only to the subject of the objection. Caltrans' responsibility to carry out all actions under this MOA that are not the subjects of the objection shall remain unchanged.

vi. At any time during implementation of the measures stipulated in this MOA, should a member of the public raise an objection in writing pertaining to such implementation to any signatory party to this MOA, that signatory party shall immediately notify Caltrans. Caltrans shall immediately notify the other signatory parties in writing of the objection. Any signatory party may choose to comment in writing on the objection to Caltrans. Caltrans shall establish a reasonable time frame for this comment period. Caltrans shall consider the objection, and in reaching its decision, Caltrans will take all comments from the other signatory parties into account. Within 15 days following closure of the comment period, Caltrans will render a decision regarding the objection and respond to the objecting party. Caltrans will promptly notify the other signatory parties of its decision in writing, including a copy of the response to the objecting party. Caltrans' decision regarding resolution of the objection will be final. Following issuance of its final decision, Caltrans may authorize the action subject to dispute hereunder to proceed in accordance with the terms of that decision.

vii. Caltrans shall provide all parties to this MOA, and the ACHP, if the ACHP has commented, and any parties that have objected pursuant to section C.6 of this stipulation, with a copy of its final written decision regarding any objection addressed pursuant to this stipulation.

viii. Caltrans may authorize any action subject to objection under this stipulation to proceed after the objection has been resolved in accordance with the terms of this stipulation.

D. **AMENDMENTS**

Any signatory party to this MOA may propose that this MOA be amended, whereupon all signatory parties shall consult for no more than 30 days to consider such amendment. The amendment will be effective on the date a copy signed by all of the original signatories is filed with the ACHP. If the signatories cannot agree to appropriate terms to amend the MOA, either signatory may terminate the agreement in accordance with Stipulation VII.F below. Attachments to this MOA may be amended through consultation as prescribed in Stipulation II, as appropriate, without amending the MOA proper.

E. **TERMINATION**

i. If this MOA is not amended as provided for in section VII.D of this stipulation, or if either signatory proposes termination of this MOA for other reasons, the signatory party proposing termination shall, in

writing, notify the other MOA parties, explain the reasons for proposing termination, and consult with the other parties for at least 30 days to seek alternatives to termination. Such consultation shall not be required if Caltrans proposes termination because the Undertaking no longer meets the definition set forth in 36 CFR § 800.16(y).

ii. Should such consultation result in an agreement on an alternative to termination, the signatory parties shall proceed in accordance with the terms of that agreement.

iii. Should such consultation fail, the signatory party proposing termination may terminate this MOA by promptly notifying the other MOA parties in writing. Termination hereunder shall render this MOA without further force or effect.

iv. If this MOA is terminated hereunder, and if Caltrans determines that the Undertaking will nonetheless proceed, then Caltrans shall comply with the requirements of 36 CFR 800.3-800.6.

F. **DURATION OF THE MOA**

i. Unless terminated pursuant to section VII.E, or unless it is superseded by an amended MOA, this MOA will be in effect following execution by the signatory parties until Caltrans, in consultation with the other signatory parties, determines that all of its stipulations have been satisfactorily fulfilled.

ii. The terms of this MOA shall be satisfactorily fulfilled within five (5) years following the date of execution by the signatory parties. If Caltrans determines that this requirement cannot be met, the MOA parties will consult to reconsider its terms. Reconsideration may include continuation of the MOA as originally executed, amendment of the MOA, or termination. In the event of termination, Caltrans will comply with section E.4 of this stipulation if it determines that the Undertaking will proceed notwithstanding termination of this MOA.

iii. If the Undertaking has not been implemented within five (5) years following execution of this MOA, this MOA shall automatically terminate and have no further force or effect. In such event, Caltrans shall notify the other signatory parties in writing and, if it chooses to continue with the Undertaking, shall reinitiate review of the Undertaking in accordance with 36 CFR Part 800.

G. **ANNUAL REPORTING**

In addition to the documentation and reporting described in Stipulation II.B, Caltrans shall provide the parties to this agreement an annual update. Such updates shall include any scheduling changes proposed, any problems encountered, failures to adopt proposed mitigation measures, and any disputes and objections received in Caltrans' efforts to carry out the terms of this MOA. The update will be due no later than December 31 of each year, beginning December 31, 2020 and continuing annually thereafter throughout the duration of this MOA. At the request of any party to this MOA, or if deemed necessary at least on an annual basis, Caltrans shall ensure that one or more meetings are held to facilitate review and comments, and to resolve questions and comments.

H. **EFFECTIVE DATE**

This MOA will take effect on the date that it has been executed by Caltrans and the SHPO.

EXECUTION of this MOA by Caltrans and the SHPO, its filing with the ACHP in accordance with 36 CFR §800.6(b)(1)(iv), and subsequent implementation of its terms, shall evidence, pursuant to 36CFR§800.6(c), that this MOA is an agreement with the ACHP for purposes of Section 110(1) of the NHPA, and shall further evidence that Caltrans has afforded the ACHP an opportunity to comment on the Undertaking and its effects on historic properties, and that Caltrans has taken into account the effects of the Undertaking on historic properties.

MEMORANDUM OF AGREEMENT

BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADERA 41 ROADWAY REHABILITATION PROJECT, STATE ROUTE 41 PMs 6.1-9.4, MADERA COUNTY, CALIFORNIA

SIGNATORY PARTIES:

California Department of Transportation

By Phillip J. Stolarski Date 4/17/20

Phillip J. Stolarski, Chief

Division of Environmental Analysis

California Office of Historic Preservation

By _____ Date 4/17/20

Julianne Polanco

California State Historic Preservation Officer

MEMORANDUM OF AGREEMENT

BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADERA 41 ROADWAY REHABILITATION PROJECT, STATE ROUTE 41 PMs 6.1-9.4, MADERA COUNTY, CALIFORNIA

INVITED SIGNATORY PARTIES:

California Department of Transportation

By Sharri Bender Ehlert Date 4/20/2020

Sharri Bender Ehlert, District 6 Director

District 6 Director

MEMORANDUM OF AGREEMENT

BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADERA 41 ROADWAY REHABILITATION PROJECT, STATE ROUTE 41 PMs 6.1-9.4, MADERA COUNTY, CALIFORNIA

CONCURRING PARTIES:

North Fork Rancheria of Mono Indians of California

By Judy E. Fink Date 4/30/20

Judy E. Fink

Tribal Chairperson

Picayune Rancheria of Chukchansi Indians

By _____ Date _____

Claudia Gonzalez

Tribal Chairwoman


NOTE:
1. WESTERN UTILITY EASEMENT FOR FIBER OPTICS RELOCATION.
2. EASTERN UTILITY EASEMENT provided just incase existing utilities are found during the utility verification process.
LEGEND
CUT/FILL LINE
APPROX. EXIST CROSS CULVERT CROSSING
FIBER OPTICS (EXACT LOCATION NEED TO BE VERIFIED)
OVERHEAD ELECTICAL
OR RIGHT OF WAY (PROPOSED RW)
OR RIGHT OF WAY (Utility Easement)
EXISTING RIGHT OF WAY
ABBREVIATION
Dist COUNTY ROUTE POST MILES TOTAL PROJECT SHEET No. TOTAL SHEETS
06 MAD 41 6.3/9.2
REGISTERED CIVIL ENGINEER DATE
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THE STATE OR CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
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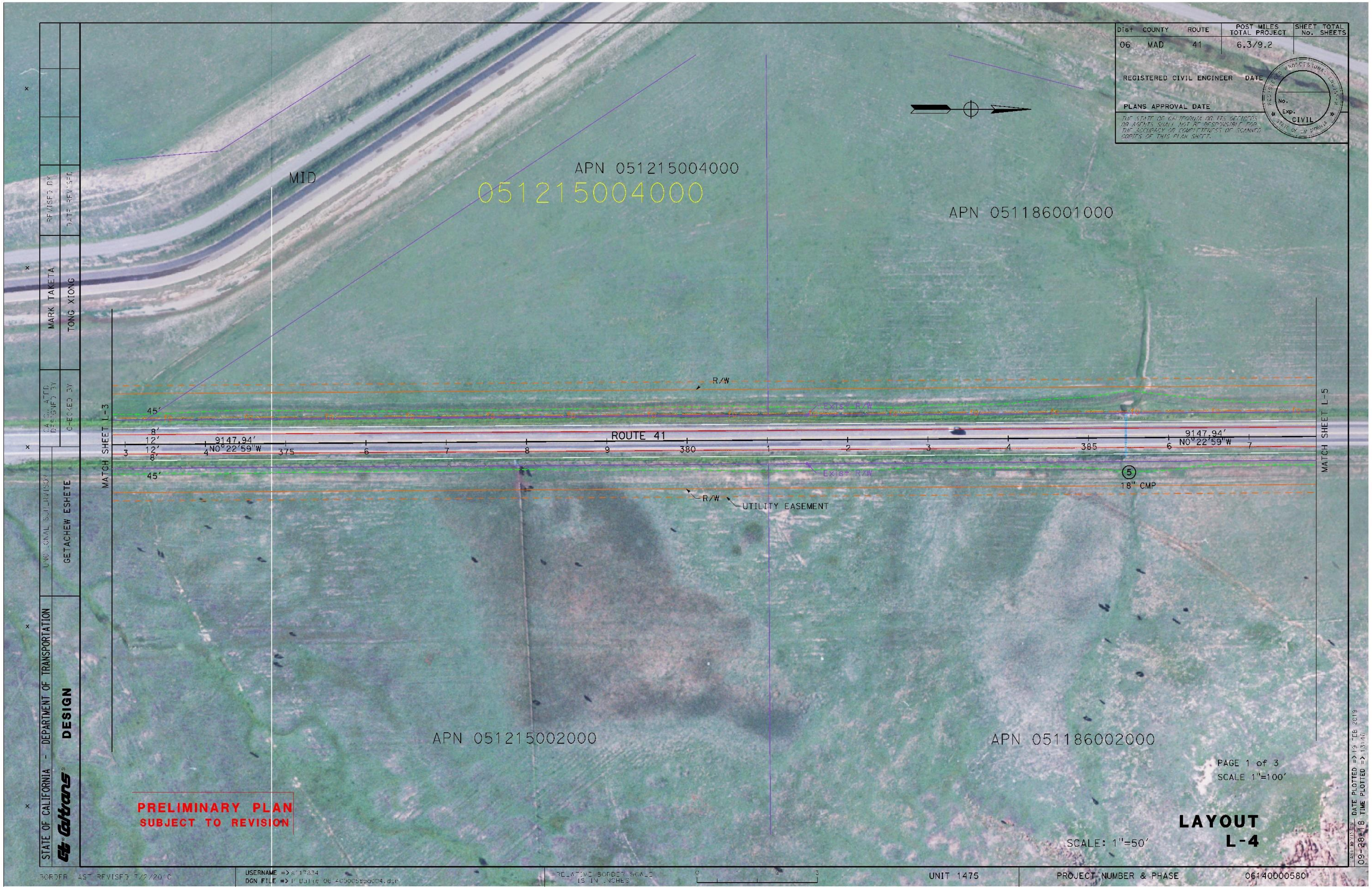
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ROUTE 41
9147.94'
N0°22'59"W
405
410
415
MATCH SHEET L-5
MATCH SHEET L-7
18" CMP
APN 051186002000
PRELIMINARY PLAN
SUBJECT TO REVISION
LAYOUT
L-6
SCALE: 1"=50'
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
GETACHEW ESHETE
MARK TAKETA
TONG XIONG
UNIT 1475
PROJECT NUMBER & PHASE
06140000580


Dist COUNTY ROUTE POST MILES TOTAL PROJECT SHEET TOTAL No. SHEETS
06 MAD 41 6.3/9.2
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
No. Exp. CIVIL
APN 051186001000
R/W
UTILITY EASEMENT
EXIST R/W
PM 8.0
ROUTE 41
MATCH SHEET L-6
MATCH SHEET L-8
50'
8'
12'
12'
8'
50'
9147.94'
N0°22'59"W
420
425
430
9147.94'
N0°22'59"W
9
18" CMP
10
48" CMP
Exist R/W
R/W
UTILITY EASEMENT
APN 051186002000
PRELIMINARY PLAN
SUBJECT TO REVISION
LAYOUT
L-7
SCALE: 1"=50'
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
MARK TAKETA
TONG XIONG
GETACHEW ESHETE
USERNAME =>
DGN FILE =>
UNIT 1475
PROJECT NUMBER & PHASE 06140000580
09-28-18 DATE PLOTTED =>
TIME PLOTTED =>


Dist COUNTY ROUTE POST MILES TOTAL PROJECT SHEET TOTAL No. SHEETS
06 MAD 41 6.3/9.2
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF COMPUTER COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
APN 051186001000
APN 051183005000
APN 051186002000
APN 051185006000
R/W
UTILITY EASEMENT
ROUTE 41
9147.94'
N0°22'59"W
4096.51'
N0°19'28"W
MATCH SHEET L-7
MATCH SHEET L-9
11
48" CMP
12
Two- 5' x 4' RCB
13
3.5'X2.5'' ECP
PRELIMINARY PLAN
SUBJECT TO REVISION
PAGE 2 of 3
SCALE 1"=100'
LAYOUT
L-8
SCALE: 1"=50'
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
MARK TAKETA
TONG XIONG
GETACHEW ESHETE
UNIT 1475
PROJECT NUMBER & PHASE
06140000580
09-28-18 DATE PLOTTED => 14 FEB 2018

DIST COUNTY ROUTE POST MILES TOTAL PROJECT SHEET No. TOTAL SHEETS
06 MAD 41 6.3/9.2
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
CIVIL
APN 051183005000
UTILITY EASEMENT
R/W
ROUTE 41
4096.51'
N0°19'28"W
CMS
APN 051191003000
APN 051185006000
MATCH SHEET L-8
MATCH SHEET L-10
PRELIMINARY PLAN
SUBJECT TO REVISION
LAYOUT
L-9
SCALE: 1"=50'
MARK TAKETA
TONG XIONG
GETACHEW ESHETE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
UNIT 1475
PROJECT NUMBER & PHASE
06140000580
09-28-18


Dist COUNTY ROUTE POST MILES TOTAL PROJECT SHEET TOTAL No. SHEETS
06 MAD 41 6.3/9.2
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
No. Exp. CIVIL
APN 051183005000
APN 051191003000
ROUTE 41
R/W
UTILITY EASEMENT
PM 9.0
4096.51'
N0°19'28"W
HWY INFO SIGN
18" CMP
MATCH SHEET L-9
MATCH SHEET L-11
MARK TAKETA
TONG XIONG
GETACHEW ESHETE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
PRELIMINARY PLAN
SUBJECT TO REVISION
LAYOUT
L-10
SCALE: 1"=50'
UNIT 1475
PROJECT NUMBER & PHASE 06140000580


APN 051183005000
APN 051183004000
051146005000
ROUTE 145
ROUTE 41
Possible Staging Area
Possible Staging Area
Possible Stock Pile Area
Possible Stock Pile Area
Exist R/W
4096.51'
N0°19'28"W
500'
S89°23'10"W
N89°35'11"E
PM 9.25
N 1 827 070.302
E 6 767 841.359
18" CMP
APN 051191003000
051146003000
PRELIMINARY PLAN
SUBJECT TO REVISION
LAYOUT
L-11
SCALE: 1"=50'
DIST 06
COUNTY MAD
ROUTE 41
POST MILES TOTAL PROJECT 6.3/9.2
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
MARK TAKETA
TONG XIONG
GETACHEW ESHETE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
UNIT 1475
PROJECT NUMBER & PHASE 06140000580
09-28-18

List of Technical Studies

Air, Noise, Water Compliance Studies, March 14, 2019

Natural Environment Study, October 2019, Revised May 2020

Floodplain Evaluation, January 9, 2019

Historical Property Survey Report, October 2019

Hazardous Waste Reports

- Initial Site Assessment, July 2, 2018
- Preliminary Site Investigation, May 13, 2019

Visual Impact Assessment—Update, November 1, 2018

Paleontological Identification Report—Revised, July 19, 2018

To obtain a copy of one or more of these technical studies/reports or the Initial Study/Environmental Assessment, please send your request to the following email address: d6.public.info@dot.ca.gov

Please indicate the project name and project identifying code (under the project name on the cover of this document) and specify the technical report or document you would like a copy of. Provide your name and email address or U.S. postal service mailing address (street address, city, state and zip code).