

State Route 269 Bridge Project

Fresno County, California
06-FRE-269 (PM 10.4-12.5)
06-0002-0595

Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment



Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.

January 2015



General Information About This Document

What's in this document:

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

What you should do:

Please read the document. Additional copies of the document and the related technical studies are available for review at the Caltrans District 6 Office at 1352 W. Olive Avenue, Fresno, CA 93728 on weekdays from 8:00 a.m. to 4:00 p.m. Copies of the document are also available at the Fresno County Library, Central Branch, at 2420 Mariposa Street, Fresno, CA 93721, or at the Huron Branch Library at 36050 "O" Street, Huron, CA 93234. The document can also be accessed electronically at the Caltrans District 6 website:

<http://www.dot.ca.gov/dist6/environmental/envdocs/d6/>.

We'd like to hear what you think. If you have any comments about the proposed project, send your written comments to Caltrans by the deadline. Send comments via U.S. mail to: Department of Transportation, Environmental Planning, Attention: Michelle Ray, Environmental Branch Chief, 855 M Street, Suite 200, Fresno, CA 93721. Send comments via email to: Michelle.Ray@dot.ca.gov. Be sure to send comments by the deadline: April 3, 2015.

What happens next:

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

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Michelle Ray, Environmental Planning, 855 M Street, Suite 200, Fresno, CA 93721, (559) 445-5286 (Voice), or use 711.

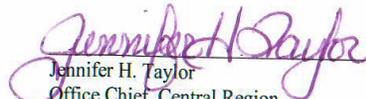
Raise the profile of State Route 269 and construct three bridges just north of the City of Huron from Palmer Avenue to State Route 198 in Fresno County.

**INITIAL STUDY
with Proposed Mitigated Negative Declaration
/ENVIRONMENTAL ASSESSMENT**

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

THE STATE OF CALIFORNIA
Department of Transportation

1/15/15
Date of Approval


Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation
CEQA and NEPA Lead Agency

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to raise the profile of State Route 269 and construct three new bridges to prevent flooding of the highway. The project is located between West Palmer Avenue and State Route 198, just north of the City of Huron.

Determination

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

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

The proposed project would have no effect on air quality, geology and soils, land use, growth, environmental justice, mineral resources, noise, population and housing, public services, transportation and traffic, community impacts, and paleontology.

The proposed project would have less than significant effects on aesthetics, agriculture, and hydrology, water quality, cultural resources, utilities and emergency services.

In addition, the proposed project would have no significant adverse effect on biological resources or hazards and hazardous materials because the following mitigation measures would reduce potential effects to insignificance:

Biological Resources

Mitigation for the proposed project may include some, all, or a combination of the following possible measures:

- Purchase of credits from an approved mitigation bank; or preservation of habitat, enhancement or restoration of habitat for impacts to sensitive wildlife species.
- Salvage of topsoil for replanting and/or transplantation of native vegetation and sensitive plants.
- Payment of in-lieu fees to mitigate for the loss of waters of the U.S. resulting from the project.

Hazardous Wastes/Materials

- Special provisions would be included in the construction contract addressing the potential hazardous materials/hazardous waste issues for lead and asbestos to ensure proper handling, disposal, and worker public safety.
- Asbestos levels exceeded the regulatory threshold of 1.0%. Soil from Palmer Avenue to Marmon Avenue would be encapsulated within the project area by placing six inches of clean soil or paving over it, or the soil would be excavated to a depth of 1 foot and hauled off as a hazardous waste.

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation

Date

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Chapter 1 **Proposed Project**

1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under the California Environmental Quality Act (CEQA). State Route 269 north of the City of Huron is subject to flooding every year from the Arroyo Pasajero Creek. When the highway floods, motorists must detour around the closed section of highway for a distance of approximately 23.5 miles. Caltrans proposes to address the flooding by raising the existing highway up to approximately 15 feet above the existing roadway and constructing three bridges. A new bridge is proposed over the Arroyo Pasajero Creek at post mile 11.23. This new structure would accommodate a 100-year flood and be approximately 11.5 feet above the existing ground. A second new bridge would be built about 580 feet south of the Arroyo Pasajero Creek at post mile 11.11. The existing bridge at post mile 12.23 would be replaced with a new bridge to allow 3 feet of additional clearance. A temporary detour road would be constructed west of the existing highway to accommodate traffic during construction. See Figures 1-1 and 1-2 and Appendix I “Project Photos and Mapping.”

State Route 269 is a conventional two-lane undivided highway that runs from State Route 33 in Kings County to State Route 145 in Fresno County. The project sits just north of the City of Huron between Palmer Avenue and State Route 198. State Route 269 is a major corridor in the middle of a productive agricultural region and also provides access to the City of Huron.

The estimated cost of the project is \$14.6 million. The capital costs for the project are funded using Measure C funds from the Fresno County Transportation Authority. Support costs are funded through the State Highway Operations and Protection Program. This project is included in the Council of Fresno County Governments (COFCG) 2013 Federal Transportation Improvement Program (FTIP) and the 2014 Regional Transportation Plan as a financially constrained project.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to prevent the closure of State Route 269 due to flooding north of the City of Huron.

1.2.2 Need

The flooding of State Route 269 during winter storms creates hazardous conditions resulting in the closure of the highway and restricting travel in and out of Huron. Flooding has caused the highway to be closed an average of 29 days a year since 1978.

Figure 1-1 Project Vicinity Map

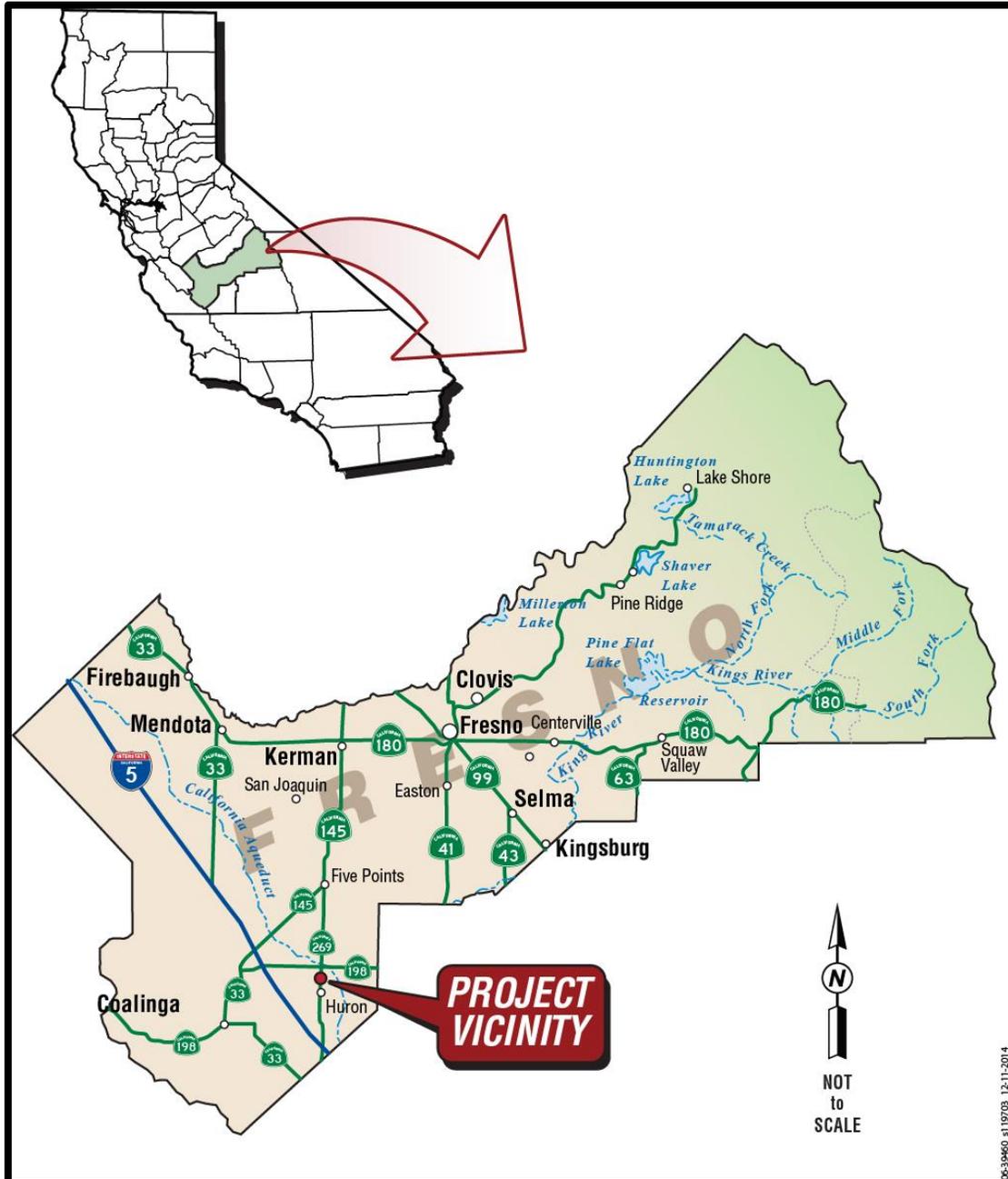
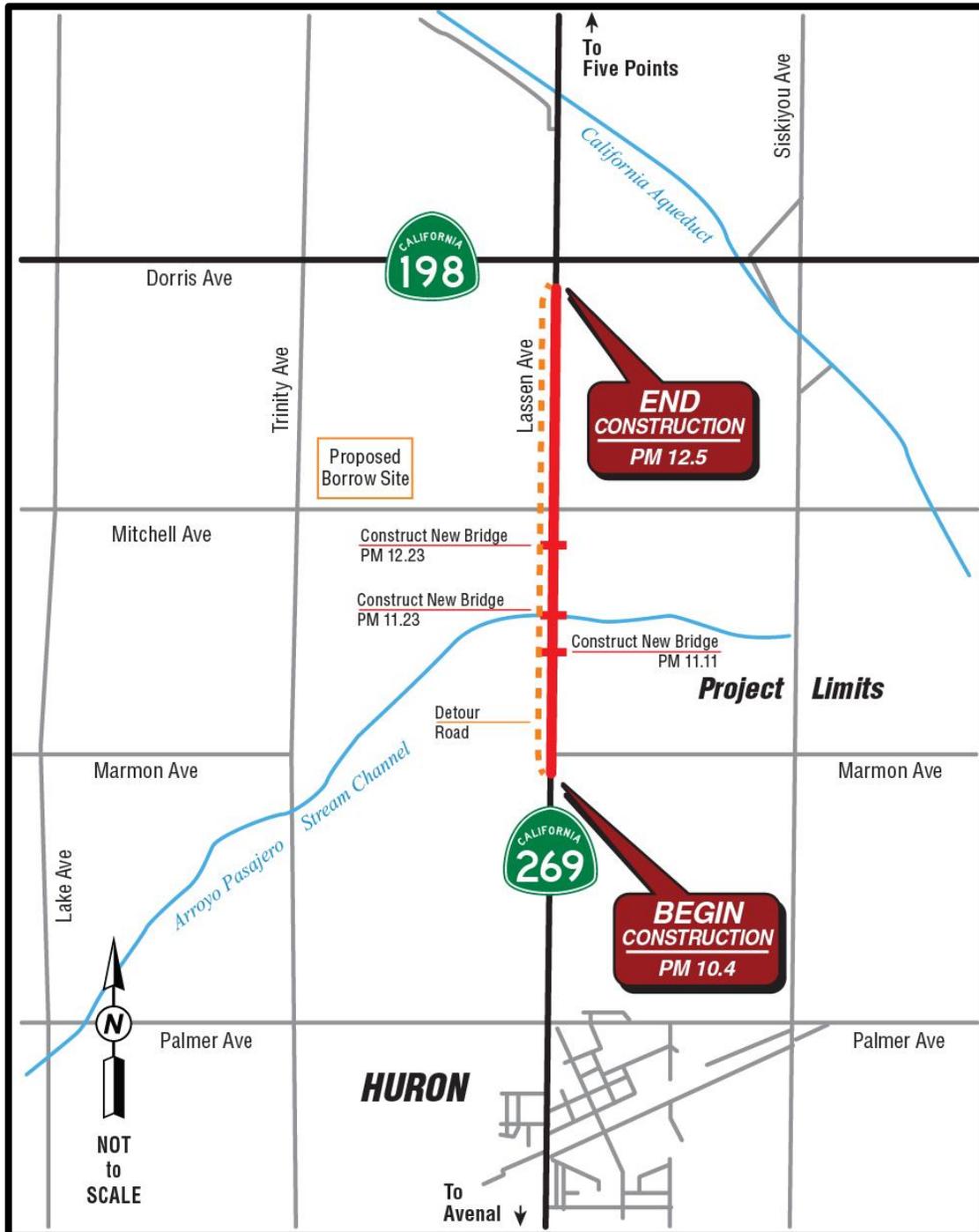


Figure 1-2 Project Location Map



1.3 Project Description

Within the limits of the proposed project, State Route 269 is a two-lane undivided highway. Caltrans proposes to raise the profile of State Route 269 and construct three new bridges to prevent closure of the highway due to flooding at nearby Arroyo Pasajero Creek.

1.4 Project Alternatives

One Build Alternative and a No-Build Alternative are under consideration.

1.4.1 Build Alternative

The Build Alternative is located on State Route 269 between Palmer Avenue and State Route 198 from post miles 10.4 to 12.5. The details of the Build Alternative are shown in Appendix I and include the following:

- Raising the existing highway up by approximately 15 feet.
- Replacing the existing highway with two 12-foot lanes and 8-foot shoulders.
- Replacing Bridge #42-0376 at post mile 12.23 with a new bridge approximately 110 feet long by 43 feet wide to allow 3 feet of additional clearance under the bridge.
- Construct a new bridge over Arroyo Pasajero Creek at post mile 11.23 with a span of approximately 500 feet long by 43 feet wide. The new structure would accommodate a 100-year flood and is approximately 11.5 feet above the existing ground.
- Construct a dike in the channel approximately 880 feet long (540 feet upstream and 340 feet downstream of the new bridge) and approximately 6 feet deep with 4:1 side slopes to direct water to the Arroyo Pasajero Bridge.
- Construct a new bridge approximately 580 feet south of Arroyo Pasajero Creek at post mile 11.11 with a span of 44 feet long by 42 feet wide. The new bridge will be approximately 15 feet above the existing ground.
- Potentially use an existing borrow site for the import of fill material as needed.
- Construct a temporary detour road west of the existing highway to accommodate traffic during construction when the highway is closed.

The project is anticipated to begin construction in 2017 and would open to traffic in 2019.

1.4.2 No-Build (No-Action) Alternative

The No-Build Alternative would keep the existing highway and bridge at their current profile, resulting in continued flooding of the highway. The No-Build Alternative

does not meet the project purpose and need because it would not correct the flooding problem on State Route 269 at Arroyo Pasajero Creek.

1.4.3 Alternatives Considered but Eliminated

The following build alternatives (Alternative 2 and Alternative 3) were considered but eliminated.

- Alternative 2 proposed to shorten the detour 9 miles by extending Butte Avenue from Gale Avenue to State Route 198. Also, the segment of Gale Avenue between Butte Avenue and State Route 269 would have to be improved and rehabilitated. This alternative would require a new bridge across Arroyo Pasajero Creek.

This alternative was eliminated because of inadequate bridge length and unstable, steep channel banks, which make new abutments more susceptible to washouts.

- Alternative 3 proposed to shorten the detour 9 miles by constructing a detour along the east side of the California Aqueduct from State Route 198 to Gale Avenue. The segment along Gale Avenue would be rehabilitated to meet county standards. A structure overcrossing with the Southern Pacific Railroad would be required.

This alternative was eliminated because Gale Avenue lies within the flood path of Arroyo Pasajero Creek and would still be susceptible to closure during heavy flooding.

1.5 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

Agency	Permit/Approval	Status
Regional Water Quality Control Board	<p>Clean Water Act Section 402—National Pollutant Discharge Elimination System (NDPES): Waste Discharge Permit</p> <p>A Storm Water Pollution Prevention Plan required by the Caltrans will be prepared and is expected to provide all the necessary temporary pollution and erosion control measures required during construction</p>	<p>Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit (Order No. 99-06-DWQ NPDES No. CAS000003) and (2) the General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (Order No. 99-08-DWQ, NPDES No. CAS000002).</p>
	Clean Water Act Section 401 Water Quality Certification	401 certification (permit) to be obtained prior to start of construction.
U.S. Army Corps of Engineers	Clean Water Act Section 404 Nationwide Permit for filling or dredging waters of the U.S.	404 permit to be obtained prior to start of construction.
California Department of Fish and Wildlife	Fish and Game Code Section 1602 Streambed Alteration Agreement	Streambed Alteration Agreement to be obtained prior to start of construction.
U.S. Fish and Wildlife Service	<p>Endangered Species Act Section 7 Consultation for federally listed Threatened and Endangered Species</p> <p>Biological Opinion from U.S. Fish and Wildlife Service</p>	Formal Section 7 Consultation will be initiated. The U.S. Fish and Wildlife Service would issue a Biological Opinion prior to the PA&ED phase of the project.
U.S. Bureau of Reclamation	Easement/Encroachment Permit(s)	Encroachment permit approval to be obtained prior to start of construction.
San Joaquin Valley Unified Air Pollution Control District	National Emissions Standards for Hazardous Air Pollutants notification	Contractor would be required to notify the air district 10 days prior to start of construction.

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.

- **Land Use**—The project is consistent with existing and future land use and with state, regional, and local plans: the 2013 State Highway Operation and Protection Program, the Fresno County General Plan, and the City of Huron General Plan. The project is not near a coastal zone, and Arroyo Pasajero Creek is not designated as a wild and scenic river.
- **Growth**—The project would not induce growth because the project would only raise the existing highway profile and construct three bridges to mitigate frequent flooding.
- **Community Impacts**—The project would not affect community character or cohesion or result in any relocation of businesses or residences because no one lives in the project area.
- **Environmental Justice**—No identified minority or low-income populations would be adversely affected by the project. No one lives in the project area.
- **Paleontology**—Test pits were excavated and inspected for potential paleontological resources at the borrow site on September 23, 2014. No further studies are required because paleontological resources are unlikely to be encountered. If another borrow site is selected or if excavation for fill material is expected to exceed 5 feet, another Paleontological Identification Report should be prepared. (Paleontological Identification Report, September 30, 2014)
- **Air Quality**—The project falls under the category of “widening narrow pavements or reconstructing bridges (no additional travel lanes)” and is exempt from a requirement that a conformity determination be made per 40 Code of Federal Regulations Section 93.126 Table 2. Caltrans standard specifications pertaining to dust control and dust palliative requirements would reduce and control emission impacts during construction. (Air Quality Compliance Memo, July 21, 2014)
- **Noise and Vibration**—The project is considered a Type I project, but there are no receptors present in the area. With implementation of temporary construction noise mitigations measures, additional noise investigation in accordance with Caltrans Traffic Noise Analysis Protocol is not required. (Noise Study Compliance Memo, July 21, 2014)

- **Geology, Soils, Seismicity and Topography**—No project impacts related to geology, soils, seismicity or topography are anticipated. Groundwater data within the project area reflected a deep water level. Due to the soil types in the area, the potential for liquefaction in the project area is low to moderate. There are no major topographic or geologic features within the project area. The project would be designed to meet current seismic standards.
- **Mineral Resources**—The project would not affect mineral resources because there are no known resources in the area and none are delineated on a local general plan, specific plan, or other land use plan.
- **Population and Housing**—The project would not affect population or housing because it will not induce growth or displace any housing or people.
- **Public Services**—The project would not negatively affect public services including schools and parks and recreation. The project would prevent the closure of State Route 269 due to flooding, which would benefit access to these public services in the City of Huron.

2.1 Human Environment

2.1.1 Farmland

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (FPPA, 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 if there is a chance federal agency activities might 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 requires the review of projects that would convert Williamson Act contract land to nonagricultural uses. The Williamson Act is designed 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 deter the early conversion of agricultural and open-space lands to other uses.

Affected Environment

The Natural Resources Conservation Service Farmland Conversion Impact Rating was completed for the project in September 2014 (see Appendix C). Farmland surrounds the entire project area. The area is used mostly to grow seasonal crops. The Bureau of Land Management property in the area is generally fallow in and near the Arroyo Pasajero Creek channel. The direct impact area surrounding the Arroyo Pasajero Creek Bridge does not include active cropland. A small area of permanent crops sits near the north end

of the project at the intersection of State Routes 269 and 198. Farmland improvements including water wells and irrigation ditches may potentially be affected by the project. A total of 12 parcels lie within the project area. Four of these parcels are under Williamson Act contract.

Soils in the project area are composed of Excelsior sandy substratum-westhaven association, Excelsior sandy loam and Cerini clay loam. The Excelsior sandy substratum-westhaven association soil is considered non-prime; the Excelsior sandy loam and Cerini clay loam soils are considered prime.

Environmental Consequences

The Farmland Conversion Impact Rating determines the relative value of farmland to be converted by using a formula that weighs farmland classification, soil characteristics, irrigation, acreage, creation of non-farmable land, availability of farm services, and other factors. The Natural Resources Conservation Service only uses prime/unique and statewide/local importance-classified land on the Farmland Conversion Impact Rating form found in Appendix C on page 81. If the rating is more than 260 points for a corridor-type project, Caltrans considers measures to minimize or mitigate farmland impacts. The rating for the project is 145 points.

Approximately 22 acres of permanent new right-of-way would be converted from designated agricultural land with approximately 2.45 acres being classified as prime farmland. Approximately 15 additional acres would be acquired for a temporary construction easement that would include a detour road to accommodate traffic during construction.

Four of the parcels needed for construction of the proposed project (see Table 2.1) are under Williamson Act contract. None of the contracts would have to be canceled as a result of the project due to the size of the parcels.

Table 2.1 Agricultural Land Affected by the Project

APN	Proposed Acquisition Acreage	Total Acres (before acquisition)
07503206S	0.95	58.36
07503205S	0.95	158.79
068111074S	0.41	238.02
068111073S	0.14	238.02

Avoidance, Minimization, and/or Mitigation Measures

No mitigation for farmland is necessary other than payment for the property and improvements being acquired. Property owners would be compensated for any displaced improvements, including irrigation wells and ditches, during the right-of-way acquisition

process. Acquisitions for the construction easement are temporary and would be returned to their preconstruction condition after completion of construction.

2.1.2 Relocations and Real Property Acquisition

Regulatory Setting

Caltrans makes every effort to acquire property interests expeditiously in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. Offers to purchase land and easements are based on a departmentally approved appraisal that determines the fair market value of the property rights being sought. It is Caltrans' goal to settle these transactions in a fair, equitable and expeditious manner, thereby avoiding the condemnation process.

Affected Environment

The area affected by the acquisition of real property and temporary easements is located along the east and west sides of State Route 269 between Palmer Avenue and State Route 198, just north of the City of Huron. All property needed for the proposed project is agricultural land, much of which is fallow. There are no residences within the construction limits of the proposed project area.

Environmental Consequences

Under the No-Build Alternative, no acquisition of property or need for long-term or temporary construction easements would occur.

The Build Alternative would not result in the acquisition of any homes or businesses. Right-of-way would be purchased from 12 parcels. Six would be purchased in fee, and seven would be acquired through permits from the U.S. Bureau of Reclamation. A temporary easement would be acquired from two private landowners and the U.S. Bureau of Reclamation for a detour road.

The project would require the acquisition of right-of-way for the permanent highway improvements totaling approximately 25 acres and temporary easements totaling approximately 28 acres. The property breakdown of permanent acquisitions and temporary easements is shown in Table 2.2, and maps detailing the acquisitions are provided in Appendix I.

All properties are agricultural. There are no residential acquisitions.

Table 2.2 Property Acquisition

Owner	APN	Proposed Acquisition Acreage	Acquisition Type
Private	07503206S	0.95	Permanent
Bureau of Reclamation	0681114ST	5.68	Permanent
Bureau of Reclamation	06811113T	1.84	Permanent
Bureau of Reclamation	06811158ST	3.19	Permanent
Bureau of Reclamation	06811122ST	0.29	Permanent
Private	06811162S	0.58	Permanent
Private	07503205S	4.10	Temporary easement
		0.95	Permanent
Bureau of Reclamation	068111052T	13.49	Temporary easement
		7.52	Permanent
Bureau of Reclamation	06811105ST	0.63	Temporary easement
		0.46	Permanent
Private	068111072S	0.68	Temporary Easement
		0.00	Permanent
Private	068111073S	1.45	Temporary Easement
		0.14	Permanent
Private	068111074S	1.13	Temporary Easement
		0.41	Permanent

Avoidance, Minimization, and/or Mitigation Measures

Caltrans would acquire needed property in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Acquisitions for the construction easement are temporary and would be returned to their preconstruction condition after completion of construction.

2.1.3 Utilities and Emergency Services

Affected Environment

Utilities

Four utility companies operate within the project limits: Pacific Gas and Electric Company, Southern California Gas, Pacific Bell, and SBC. The affected utilities may involve, but are not limited to, electricity, gas, water, fiber optics and telephone.

Emergency Services

The Fresno County Fire Protection District provides fire protection, emergency medical and rescue service to the area. The Fresno County Sheriff’s Department provides law enforcement to the area and uses State Route 269 to access its rural areas of jurisdiction in western Fresno County. The California Highway Patrol is responsible for traffic enforcement on State Route 269.

Environmental Consequences

Utilities

Utilities within the project area would have to be relocated for construction of the proposed project. Electricity, gas, water, fiber optics and telephone utilities would be relocated along State Route 269 in the project area. Caltrans would work with affected companies including Pacific Gas and Electric Company, Southern California Gas, Pacific Bell, and SBC to determine where utilities would be relocated.

Emergency Services

The project would have a beneficial impact on fire protection, law enforcement, and emergency services by providing an improved highway that is not subject to being closed due to flooding. The detour required from the closure of the highway due to flooding requires approximately 23.5 miles of out-of-direction travel. During construction, traffic would travel on the temporary detour road.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would prevent temporary impacts to utilities and emergency services:

Utilities

- Utilities would be relocated to accommodate construction of the proposed project. All utility relocation work would be done by the affected utility companies. Utility users would be informed of the date and time in advance of any service disruptions.

Emergency Services

- A traffic management plan would be developed to minimize delays and maximize safety during construction. The traffic management plan could include, but is not limited to, the following:
 1. Release of information through brochures and mailers, press releases, and notices from the Caltrans public information office.
 2. Use of fixed and portable changeable message signs.
 3. Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management plan.

2.1.4 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled

must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

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

Affected Environment

State Route 269 is a conventional two-lane undivided highway that runs from State Route 33 in Kings County to State Route 145 in Fresno County. The project sits just north of the City of Huron between Palmer Avenue and State Route 198.

State Route 269 is a major corridor in the middle of a productive agricultural region and also provides access to the City of Huron. The highway is open to local and regional bicycle and pedestrian travel. The current shoulders on State Route 269 are about 3 feet wide.

Environmental Consequences

The proposed project would prevent the closing of State Route 269 due to flooding by raising the profile of the highway and constructing three bridges. The proposed project would not result in an increase in traffic on the highway. The segment of highway and the bridges would be constructed to Caltrans standards, giving bicyclists and pedestrians more room to maneuver on the shoulders. Although construction of the project could result in short traffic delays, a temporary detour road next to State Route 269 would provide continued access to the surrounding area during construction. The project is expected to start construction in 2017 and open to traffic in 2019.

Avoidance, Minimization, and/or Mitigation Measures

A traffic management plan would be developed to minimize delays and maximize safety for motorists. The traffic management plan could include, but is not limited to, the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office.
- Use of fixed and portable changeable message signs.
- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center.
- Use of one-way traffic control.

- Bridge railing will be required as appropriate for the safe travel of bicyclists.
- Construction of a detour road for use during construction.

2.1.5 Visual/Aesthetics

Regulatory Setting

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

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

Affected Environment

A Visual Impact Assessment was completed in October 2014. The project is in a rural area that is undeveloped and used mostly for agriculture. Most of the agricultural land in the area is either fallow or planted in seasonal crops. Small amounts of land on the north and south ends of the project are planted with permanent crops. The surrounding topography is gently rolling with the landform, while the highway is generally flat. Arroyo Pasajero Creek runs through the project site across State Route 269; it carries floodwater during winter storms.

State Route 269 is a two-lane conventional highway that has no median and does not include any highway landscaped vegetation. Roadside vegetation is composed mostly of shrubs, grasses and crops. Additionally, no segment of State Route 269 is listed as officially designated scenic or eligible scenic highway.

Environmental Consequences

No qualifying scenic resources would be affected by the construction of the proposed project. To accommodate the three bridge structures and channels, some existing slopes would be either cut or filled. It is estimated that 75,000 cubic yards of fill would be placed within the project footprint. Depending on the placement and slope of the fill, visual inconsistency to the natural landscape could occur. Although the new bridge structures and railing could create a more urban look if not designed in keeping with the rural environment, State Route 269 would remain passable during and after any flooding. The Visual Impact Assessment anticipates there would be a low public concern regarding the project design features such as new bridge structures and railings.

Avoidance, Minimization, and/or Mitigation Measures

The following would ensure that the visual quality of this segment of State Route 269 is preserved:

- Propose bridge and railings design features to be in keeping with the rural environment to minimize visual impacts.
- Slopes should not exceed a gradient of 1:3. Slopes that are designed at gradients of 1:2 or steeper would require the written concurrence of the District Landscape Architect, Maintenance, and the Storm Water Coordinator.
- Tops and toes of slopes should be rounded to create a natural appearance.
- All exposed disturbed soil areas would require permanent erosion control application, which would restore the disturbed project area to natural vegetation.

2.2 Cultural Resources

Regulatory Environment

The term “cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. 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, 2004, a Section 106 Programmatic Agreement between the Advisory Council, the Federal Highway Administration, State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The Section 106 Programmatic Agreement implements the Advisory Council’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 Archaeological Resources Protection Act (ARPA) applies when a project may involve archaeological resources located on federal or tribal land. This act requires that a permit be obtained before excavation of an archaeological resource on such land can take place.

Affected Environment

A Historic Property Survey Report was completed in November 2014 to comply with Section 106 of the National Historic Preservation Act. None of the architectural or structural resources identified within the project area required evaluation. Efforts to identify archaeological resources within the project area included archival research, a pedestrian archaeological survey, and consultation with knowledgeable local Native American groups and individuals. A cultural resources records search by California Historical Resources Information System staff at the Southern San Joaquin Valley Information Center (SSJVIC), California State University, Bakersfield identified the presence of an ethnographic village, Golon, in the vicinity of the project area (Huron, California).

Environmental Consequences

The archaeological survey and archival research identified no archaeological resources within the area of potential effects for the undertaking. Two small portions of the project area could not be accessed during the pedestrian survey because Caltrans did not have a right to enter those properties. These areas will be surveyed before the project is constructed. The Santa Rosa Rancheria Tachi Yokuts Tribe requested that it be consulted throughout the length of the project. The tribe also made a request to monitor construction activities.

The project area is considered to be sensitive for archaeological resources due to the Southern San Joaquin Valley Information Center records search identification of the ethnographic Village of Golon. The hydrology of the area and geoarchaeological information also indicate high sensitivity. In consideration of these factors, an Extended Phase I/geoarchaeological investigation was conducted. The Santa Rosa Rancheria was consulted regarding the geoarchaeological studies. These investigations were conducted to determine the presence or absence of buried archaeological deposits within the proposed project impact areas. Seventeen trenches were excavated across the project area where subsurface/construction impacts are planned. No archaeological materials or buried Late Pleistocene or Holocene soils were encountered. No historic properties were identified within the project area with the exception of the inaccessible areas discussed above.

Avoidance, Minimization, and/or Mitigation Measures

- Consulting Native American tribes and a Caltrans archaeologist would monitor construction activities involving excavation as needed and determined by the Caltrans archeologist and Caltrans Native American Coordinator. If buried cultural materials are encountered during construction, work would stop in that area until a qualified archaeologist could evaluate the nature and significance of the find.
- If human remains are exposed during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance should occur until the county coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code 5097.98.

2.3 Physical Environment

2.3.1 Hydrology and Floodplain

Regulatory Setting

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

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

The base floodplain is defined as the area subject to flooding by the flood or tide having a 1 percent chance of being exceeded in any given year. An encroachment is defined as an action within the limits of the base floodplain.

Affected Environment

A Location Hydraulic Study was completed in July 2014, and a Floodplain Evaluation was completed in August 2014. Arroyo Pasajero Creek crosses State Route 269 in Fresno County, just north of the City of Huron. The stream course within the project area is a wide, naturally winding channel. State Route 269 was accepted into the state highway system in 1976. At that time, the roadway was over 3 feet higher than the surrounding topography. Today, this section of the roadway is 3 or more feet lower than the existing topography, so the highway is affected by seasonal flooding just north of Huron.

Due to the topography and sediment load, anytime the Arroyo Pasajero waters cross State Route 269, the sediment is deposited on the roadway. Flooding and the resulting sedimentation often require the closing of the highway. The highway has been closed due to flooding an average of 29 days a year over a 19-year period (1978 to 1998). In addition to the flooding of State Route 269, floods have occurred in the City of Huron area in 1958, 1963, 1966, 1969, and 1978.

The Federal Emergency Management Agency (FEMA) has determined that the project falls in an area where the flooding depth is 1 foot. The project does not constitute a significant floodplain encroachment as defined in 23 Code of Federal Regulations 650.105 and is not a longitudinal encroachment. The Flood Insurance Rate Map designates the project area as Zone AO (Areas of 100-year flood). Zone AO is defined as an area where average flood depths of 1 to 3 feet have been determined.

Before construction of the California Aqueduct, floodwater flowed northeasterly toward Lassen Avenue and then north to State Route 198. In 1967, the segment of the California Aqueduct near State Route 269 was constructed under joint participation of the U.S. Bureau of Reclamation and the State Department of Water Resources. This segment of the aqueduct intercepted the Arroyo Pasajero Creek. It was known that the construction of the aqueduct would impound water upstream of the aqueduct. However, the magnitude of water and the sediment load were underestimated significantly. The floodwater volume from a 100-year flood is five times greater than the original estimate, and the average annual sedimentation is four times greater than the original estimate.

Environmental Consequences

With the raising of State Route 269 on an embankment within the floodplain area and the construction of three bridges, it is anticipated that flood flows would be able to follow their historic patterns, eliminating flooding of the highway. The project does not constitute a significant floodplain encroachment, is not a longitudinal encroachment, and would not substantially affect the base flood elevation.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required. Raising the profile of State Route 269 and constructing three new bridges would prevent the highway from being flooded and sediment from being deposited onto the highway.

2.3.2 Water Quality and Storm Water Runoff

Regulatory Setting

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the U.S. from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System permit. Known today as the Clean Water Act, the act has been amended by Congress several times. In the 1987 amendments, Congress directed dischargers of stormwater 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 tell the public about water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge would comply with other provisions of the Clean Water Act. Section 401 compliance 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 discharge (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 discharge

of stormwater from industrial/construction and municipal separate storm sewer systems.

- 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 objective 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 Standard permits. There are two types of General permits: Regional permits and Nationwide permits. 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 authorize a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers' Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard 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 (Code of Federal Regulations 40 Part 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 that 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. As stated in 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. 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).

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, the Porter-Cologne Act 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 regarding water quality standards in a project area are contained in the applicable Regional Water Quality Control Boards Basin Plan. States designate beneficial uses for all water-body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with the 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 controls, the Clean Water Act requires the establishment of total maximum daily loads that 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, water pollution control, and water quality functions throughout the state. 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 Pollution Discharge Elimination System Program

Section 402(p) of the Clean Water Act requires the issuance of National Pollution Discharge Elimination System permits for five categories of storm water dischargers, including municipal separate storm sewer systems. The U.S. Environmental Protection Agency defines municipal separate storm sewer systems 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 conveyances designed or used for collecting or moving storm water. The State Water Resources Control Board has identified Caltrans as an owner/operator of municipal separate storm sewer systems. The National Pollution Discharge Elimination System 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 Pollution Discharge Elimination System permits for five years. Permit requirements remain active until a new permit has been adopted.

The Caltrans Municipal Separate Storm Sewer Systems Permit, under revision at the time of this update, contains three basic requirements:

- Caltrans must comply with the Construction General Permit (see below).
- Caltrans must use a year-round program throughout the state to effectively control stormwater and non-stormwater discharges.
- Caltrans stormwater discharges must meet water quality standards through the use of permanent and temporary (construction) best management practices and other measures.

To comply with the permit, Caltrans developed the Statewide Stormwater Management Plan to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Statewide Stormwater Management Plan assigns responsibilities within Caltrans for using stormwater management procedures and practices as well as training; public education and participation; monitoring and research; program evaluation; and reporting activities. The Statewide Stormwater Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. The water management plan outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management practices. The proposed project would be programmed to follow the guidelines and procedures outlined in the latest Statewide Stormwater Management Plan to address stormwater runoff.

Construction General Permit

The Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates stormwater discharges from construction sites that result in a disturbed soil area of 1 acre or greater, and/or are smaller construction sites that are part of a larger common plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation results 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 as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop stormwater pollution prevention plans; use sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels, determined during the planning and design phases, are based on potential erosion and transport to receiving waters. The risk level determines the requirements. For example, a Risk Level 3 (highest risk) project would require the following: compulsory

stormwater runoff pH and turbidity monitoring; and before- and after-construction aquatic biological assessments during specified seasonal windows. For all projects subject to the Construction General Permit, applicants are required to develop and use an effective Stormwater Pollution Prevention Plan. In accordance with the Caltrans Standard Specifications, a Water Pollution Control Plan is necessary for projects with disturbed soil areas 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 also discharge to a water body must obtain a 401 Certification that certifies the project would be in compliance 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. Depending on project location, 401 Certification is obtained from the appropriate Regional Water Quality Control Board. Certification is required before the U.S. Army Corps of Engineers issues a 404 permit.

In some cases the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Board may issue Waste Discharge Requirements under the State Water Code. The water codes define activities such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals to be used 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 Report was completed in July 2014. The project area sits on a portion of a 450-square-mile alluvial fan created by the Arroyo Pasajero channel as it flows eastward from the Diablo Coast Range. Arroyo Pasajero Creek is the only watercourse found within the project area. It is a temporary channel that is normally dry, but does flood during heavy rains. Floodwaters travel east toward the San Luis Canal where the channel ends as it fans out and enters an area of detention basins and then the San Luis Canal.

The main topographic features on the project site are the constructed dike along the Arroyo Pasajero flood control channel. The purpose of the dike is to direct flood flows away from the private agricultural land to the north and keep flood waters from entering the aqueduct. The agricultural fields that surround the Department of Water property are generally flat, but the fields are bisected by small irrigation ditches and dirt access roads.

Groundwater throughout the basin is suitable for agricultural water supply and industrial use. Generally, the water quality within the Arroyo Pasajero Creek is moderate to good. During floods, the Arroyo Pasajero carries large quantities of sediments onto State Route 269, north of the City of Huron. Floodwaters deposit large amounts of sediment, causing the sediment basins to fill over time. There are some areas of the Arroyo Pasajero Creek floodplain where large concentrations of asbestos in the deposited sediments are prevalent.

The Clean Water Act requires the identification of water bodies that are considered impaired, which means the water body does not meet water quality standards. These water bodies must then be placed on the “Clean Water Act Section 303(d) List of Water Quality Limited Segments.” Arroyo Pasajero Creek is not listed as being impaired in the Environmental Protection Agency’s 2010 303 (d) list.

Environmental Consequences

Short-term impacts to water quality within the area may occur during project construction. Long-term impacts to water quality impacts associated with the project may occur from pollutants entering Arroyo Pasajero Creek through stormwater runoff. Increased pollutant discharges from the road surface during storms could affect local water bodies. Uncontrolled water flow from the highway surface may cause erosion that could alter the stream and create gullies. To protect water quality, control erosion and prevent washout within the project area, rock slope protection would be used on the banks along the channel and at the Arroyo Pasajero Creek Bridge. The scope of work would not alter the river creek-sectional area, and it would not change the 100-year flood elevation because it is not changing the hydraulics of the creek. Due to the design, permitting, and site-specific conditions of this project, however, the potential long-term impacts to water quality are not considered adverse.

Avoidance, Minimization, and/or Mitigation Measures

Design Features

To protect water quality, control erosion and prevent washout within the project area, a training dike with rock slope protection along the dike embankments would be used to protect the banks of the Arroyo Pasajero channel east and west of the bridge.

Temporary Construction Measures

Standard temporary construction site and permanent design pollution prevention and permanent stormwater treatment best management practices would be used during and after project construction to control potential discharges of pollutants to surface water. Best management practices would be designed to control general gross pollutants and sedimentation/siltation, depending on location.

Stormwater Best Management Practices

A National Pollutant Discharge Elimination System Stormwater Permit is required for the project along with any subsequent permit in effect at the time of construction. The contractor must comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Construction Activities. The contractor would use best management practices as specified in the Caltrans Stormwater Management Plan.

Prepare and Implement a Stormwater Pollution Prevention Plan

The contractor would be required to develop an acceptable Stormwater Pollution Prevention Plan. The plan would contain best management practices that have

demonstrated effectiveness at reducing stormwater pollution. The plan would address all construction-related activities, equipment, and materials with the potential to affect water quality. All construction site best management practices would follow the latest edition of the Stormwater Quality Handbooks and Construction Site Best Management Practices Manual to control and minimize the impacts of construction-related pollutants. The Stormwater Pollution Prevention Plan would include best management practices to control pollutants, sediment from erosion, stormwater runoff, and other construction-related impacts. In addition, the Stormwater Pollution Prevention Plan would include the use of specific stormwater effluent monitoring requirements based on the project's risk level to ensure that the best management practices are effective in preventing the degradation of any water quality standards.

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

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

In addition to the acts listed above, Executive Order 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 the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste.

The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

Affected Environment

An Initial Site Assessment/Hazardous Waste Compliance Memo, completed in December 2012, consisted of a site visit and a database records search. The resource agency databases include, but are not limited to: Department of Toxic Substances Control's EnviroStor, State Water Resources Control Board's Geotracker, and CalRecycle's Solid Waste Information System. Three open cases were listed on the Geotracker website and are in the process of identifying the extent of soil contamination on their respective properties. Although these facilities are potential hazardous waste risks, construction activities would not occur south of Palmer Avenue in the vicinity of the leaking gas stations. No other sites were listed within project boundaries. A Preliminary Site Investigation was recommended to address lead-based paint and asbestos-containing materials on the bridge proposed to be removed and replaced (Huron Dike Bridge #42-0376).

A Preliminary Site Investigation was conducted for the project by Geocon Consultants, Inc. on behalf of Caltrans on March 26, 2014 and April 9, 2014. Huron is not an area that contains ultramafic/serpentine rock. However, there was a potential risk of naturally occurring asbestos existing in the Arroyo Pasajero Creek (owned by the Bureau of Reclamation) and adjacent soils from surface runoff/erosion. Asbestos-containing material and lead-based paint samples were taken from Huron Dike Bridge. Soil samples were taken at various locations along State Route 269 for aerially deposited lead and naturally occurring asbestos. Naturally occurring asbestos samples were also taken at the borrow site (owned by Department of Water Resources) to determine if soil could be used as fill material for the project. A Naturally Occurring Asbestos Survey (addressing Bureau of Reclamation parcels), an Asbestos and Lead-Containing Paint Survey Report, and an Aerially Deposited Lead and Naturally Occurring Asbestos Report were completed in May 2014.

Environmental Consequences

Information in this section is based on the Preliminary Site Investigation Results Memo (dated May 30, 2014).

Asbestos-Containing Materials/Lead-Based Paint

A Bridge Survey was conducted on Huron Dike (#42-0376). A total of six bulk asbestos samples representing three suspect materials (expansion joint material, bearing pad, and concrete) were collected. Asbestos was not detected in any of the samples.

The bridge structure itself is not painted. However, one sample of intact graffiti paint was sampled from under the bridge and the total lead concentration was 4.4 milligrams/kilogram (mg/kg). It would not be classified as a California hazardous waste or Federal Resource Conservation and Recovery Act waste based on lead content if stripped, blasted, or otherwise separated from the substrate.

Aerially Deposited Lead

Twenty-four direct-push borings were drilled with samples collected at 0.0-1.0 foot, 1.0-2.0 feet, and 2.0-3.0 feet below ground surface, yielding a total of 72 soil samples. Samples were taken from the unpaved shoulders of the highway every 800-1,000 feet from Palmer Avenue to State Route 198.

Total lead concentrations ranged from 2.3 milligrams/kilogram (mg/kg) to 45 mg/kg, less than 50 mg/kg (10 times the Soluble Threshold Limit Concentration of 5 milligrams/liter). The average total lead value was 7.47 mg/kg, well below regulatory levels. Therefore, soil would be considered non-hazardous and could be reused onsite, relinquished to the contractor, and/or disposed of as non-hazardous soil.

Naturally Occurring Asbestos

Fourteen hand-auger borings were collected within the U.S. Bureau of Reclamation right-of-way, six adjacent to the Arroyo Pasajero Creek and eight at the potential borrow site at the intersection of Mitchell and Trinity Avenues. Soil samples were collected at approximate depth intervals of 0.0 to 1.0 foot, 1.0 to 2.0 feet and 2.0 to 3.0 feet. The samples were analyzed for asbestos by the California Air Resources Board Method 435 (CARB 435) using polarized light microscopy (PLM). A total of 42 samples were analyzed from U.S. Bureau of Reclamation property. All of the samples were reported to contain chrysotile asbestos below the California Air Resources Board's regulatory level of 0.25 % for use as a surfacing application/fill material. All samples were found to be non-fibrous asbestos. Soil from these areas may be reused onsite or disposed of in a landfill without restriction.

In addition to the samples taken on the U.S. Bureau of Reclamation property, 72 aerially deposited lead soil samples were collected within the Caltrans right-of-way, 24 of those were randomly selected to also be analyzed for naturally occurring asbestos. Results within project boundaries indicate that levels were generally below the permitted threshold. However, along the northbound shoulder from Palmer Avenue to Marmon Avenue, three samples were at or above the 0.25% limit for chrysotile asbestos. Soil from this area may not be used as surfacing application or uncovered fill material and is considered a Restricted Material. Also, two of the three samples were at or greater than the permitted threshold of 1.0% asbestos; soil could potentially be considered a

hazardous waste if disposed of offsite. If soil from Palmer Avenue to Marmon Avenue cannot be encapsulated within the project area by placing 6 inches of clean soil or paving over it, the soil would need to be excavated to a depth of 1 foot and hauled off as a hazardous waste. Using the soil to raise the profile or as a surfacing material while leaving it uncovered where it could be disturbed or kicked up could cause asbestos exposure to the public or workers.

Two personal air samples were taken by Geocon Consultants during the April 2014 sampling activities. Results were analyzed in accordance with National Institute for Occupational Safety and Health and were below the California Occupational Safety and Health Administration's Permissible Exposure Limits (PEL) for asbestos. Results were further analyzed to better evaluate the presence of asbestos fibers in the air samples; no asbestos fibers were reported.

Based on the personal air samples, soil-disturbing activities would not be expected to result in worker exposures greater than the regulatory thresholds provided that engineering controls (wetting the area for dust suppression) are properly implemented.

Avoidance, Minimization, and/or Mitigation Measures

- Special provisions would be included in the construction contract addressing the potential hazardous materials/hazardous waste issues for lead and asbestos to ensure proper handling, disposal, and worker/public safety.
- Soil from Palmer Avenue to Marmon Avenue, with asbestos levels exceeding the regulatory threshold of 1.0%, would be encapsulated within the project area by placing 6 inches of clean soil or paving over it, or the soil would be excavated to a depth of 1 foot and hauled off as a hazardous waste.

2.4 Biological Environment

2.4.1 Natural Communities

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

Critical habitat under the Federal Endangered Species Act is discussed in Threatened and Endangered Species, Section 2.4.5. Wetlands and other waters are discussed in Section 2.4.2.

Affected Environment

A Natural Environment Study was completed in January 2015. The project impact area is defined as the area directly affected, plus adjacent areas that may be indirectly affected.

The biological study area consists of a 200-foot-wide buffer along the approximate 2-mile-long segment of State Route 269 that would be disturbed during construction, the Arroyo Pasajero Creek Bridge site, a potential borrow site, and easements including a temporary detour road.

The biological study area contains habitat from the following natural communities:

- Fremont cottonwood forest alliance—This natural community sits along the margins of the Arroyo Pasajero channel and represents a riparian-type habitat. True riparian characteristics of this habitat on the site are poorly developed and degraded due to the very dry soil conditions and high amount of disturbance.
- Mulefat scrub alliance—Mulefat scrub is associated with riparian soils, which can occur on alluvial systems that experience periodic flooding. Mulefat scrub occurs in the eastern portion of the Department of Water Resources drainage basin, with only a very small portion overlapping the biological study area boundary on the north side of the Arroyo Pasajero channel.
- Saltbrush (Quailbrush) scrub alliance—Saltbrush scrub habitat consists of open stands of dry and/or salty soil-adapted scrub species in areas of the San Joaquin Valley that are associated with low precipitation, low humidity, high summer temperatures, and cool winters but with high levels of solar radiation year-round. Saltbrush scrub habitat is found within the biological study area mostly south of the Arroyo Pasajero channel, west of State Route 269.
- Aquatic Resources—The project area does not contain any features that would provide permanent aquatic or wetland habitat. Ephemeral pools can occur in the area, sufficient to maintain populations of spadefoot toads (*Spea hammondi*), which have been observed in the Westside Detention Basin in the recent past. The only creek within the project area, the Arroyo Pasajero, is normally dry, experiencing flows only in response to significant precipitation in the Coast Ranges to the west of the project site. Some of these floods can be severe, and the Department of Water Resources has removed up to 41,000 cubic yards of soil from the channel to maintain a clear path for floods (DWR 2012). Between 1978 to 1997, State Route 269 was closed an average of 29 days per year due to floods (Caltrans data). The only other aquatic features in the area are irrigation ditches that surround the agricultural fields to the north, west, and south of the project area. State Route 269 crosses such ditches near the north and south ends of the project area.

Five other habitat types found in the biological study area do not have a “natural community” classification:

- Tamarisk—This community dominates the northeast portion of the project area, with a smaller stand also located along the west side of State Route 269 in the northern end of the biological study area. It is a result of the 1995 flood depositing seeds on the site. Before that event, there were no tamarix trees in the area.
- (Ruderal) Annual grasslands—This natural community is found south of the Arroyo Pasajero channel on both sides of State Route 269. The annual grasslands here are

dominated by non-native species, and areas of this habitat type exhibits varying degrees of disturbance and invasion by ruderal species.

- **Ruderal**—These areas dominate the center-west portion of the biological study area and the shoulders of State Route 269, including areas that undergo frequent disturbance, such as the informal parking areas around the Arroyo Pasajero channel.
- **Bare Ground**—The flood control channel portion of the Arroyo Pasajero channel is routinely cleaned out and maintained by Department of Water Resources personnel. Sediments deposited by flood flows are removed and placed onto the control dikes along the channel. So, the ground in these areas is mostly bare with only a scattered growth of Russian thistle and other ruderal species. This habitat type is located in the center portion of the biological study area where the new Arroyo Pasajero Bridge is proposed.
- **Agricultural Lands**—Crops are actively cultivated in all areas surrounding the Department of Water Resources property. This includes the far northern and southern portions of the biological study area in areas where the temporary detour road is proposed. A plot of land cultivated by the California Department of Fish and Wildlife for wildlife purposes sits on Department of Water Resources land about a quarter mile west of the project area and a quarter mile south of the proposed borrow site. All other croplands are outside of the Department of Water Resources property.

Environmental Consequences

No natural communities of special concern were identified within or near the biological study area for the proposed project. There is no designated critical habitat within the biological study area for the State Route 269 Bridge project.

The proposed project would permanently affect 0.18 acre of saltbush scrub due to the widening of State Route 269. The detour road and installation of the training dikes would result in an additional 0.59 acre of temporary impacts to saltbrush scrub.

The proposed project may also permanently affect 0.04 acre and temporarily impact 0.74 acre of cottonwood riparian habitat. Actual acres of impact would be determined at the design stage (Project Specifications and Estimates Phase) of the project.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation Measures

In areas where saltbush scrub or cottonwood riparian habitat would be temporarily affected by construction, mitigation would be required by way of reseeding and/or revegetating the areas where the vegetation was removed. The temporary impact areas would be restored to original grade and planted with native saltbrush and/or cottonwood vegetation, where appropriate, after construction. Revegetation of the saltbrush scrub would be required by the U.S. Fish and Wildlife Service per the San Joaquin Kit Fox Protection Measures listed in Appendix H.

2.4.2 Wetlands and Other Waters

Regulatory Setting

A Natural Environment Study was completed in January 2015. 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. The Clean Water Act regulates 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. 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 the following regulatory program: 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 of Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

The U.S. Army of Corps of Engineers issues two types of 404 permits: General and Standard permits. Nationwide permits, a type of General permit, authorizes a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of U.S. Army of Corps of Engineers Standard permits.

For Standard permits, the U.S. Army of Corps of Engineers decision to approve is based on compliance with the U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines (40 Code of Federal Regulations Part 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 U.S. Army of 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 that would have fewer adverse effects. The guidelines state that the U.S. Army of Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have fewer effects on waters of the U.S., and there would not be 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, this order 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) there is no practicable alternative to the construction; and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated mainly by the California Department of Fish and Wildlife, the State Water Resources Control Board, and the Regional Water Quality Control Boards. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600 to 1607 of the California Fish and Wildlife 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. 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 (streamside) 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. The Regional Water Quality Control Boards also issue water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the Clean Water Act. See the Water Quality section for additional details.

Affected Environment

Arroyo Pasajero Creek is a seasonal stream that flows east through the project site. Jurisdictional waters of the United States are defined as those waters used—currently, in the past, or in the future—for interstate commerce, including all waters subject to the ebb and flow of the tide and all interstate waters including interstate wetlands. This definition also includes interstate lakes, rivers, streams (including seasonal streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, and playa lakes, or natural ponds where the use, degradation, or destruction of which could affect interstate or foreign commerce.

Wetlands can fall under the jurisdiction of the U.S. Army Corps of Engineers, California Regional Water Quality Control Board and California Department of Fish and Wildlife. Jurisdictional wetlands generally include swamps, marshes, bogs, natural drainage channels, and seasonal wetlands. The project area does not contain any features that would provide permanent aquatic or wetland habitat. No wetlands are located within the project area.

No coordination with regulatory agencies have taken place at this point in the project planning process. Coordination with these regulatory agencies would take place during the Project Specification and Estimates Phase of the project, as well as determination of agency jurisdiction of the Arroyo Pasajero Creek.

Environmental Consequences

During construction of the proposed project, Arroyo Pasajero Creek would be disturbed by equipment used to construct the new Arroyo Pasajero Creek bridge and the dikes. At this point in the project's development, the exact acreage of impacts are not known and will be finalized during the Project Specification and Estimates Phase. Therefore, preliminary estimates indicate that there would be 1.15 acres of temporary impacts, and 0.66 acre of permanent impacts of potentially jurisdictional waters of the United States.

Temporary impacts are due to the operation of construction equipment within the creek channel. These areas would be restored to original grade post-construction. Permanent impacts are due to the removal of one existing channel under State Route 269, the installation of training dikes, and the footprint of the new bridge columns within the waterway.

Avoidance, Minimization, and/or Mitigation Measures

Best management practices would be included so the smallest practical footprint would be in place to minimize temporary, indirect, and permanent impacts to waters of the United States. Work would take place only when Arroyo Pasajero Creek is dry. In addition, the proposed project would incorporate standard Caltrans best management practices to prevent impacts related to degradation of the Arroyo Pasajero Creek.

If Arroyo Pasajero Creek is determined to be jurisdictional, Caltrans would obtain permits from the U.S. Army Corps of Engineers (404 Nation Wide Permit), California Regional Water Quality Control Board (401 Certification) and California Department of Fish and Wildlife (Streambed Alteration Agreement). These permits will identify measures to mitigate impacts to the Arroyo Pasajero Creek. All proposed permits are listed in section 1.5 "Permits and Approvals Needed" in this report.

To ensure no net loss of waters of the United States, one or more of the following options could compensate for the permanent loss of waters if Arroyo Pasajero Creek is determined to be jurisdictional:

- In-lieu fee payments may be required to compensate for impacts to jurisdictional waters.
- Dedication of mitigation lands for impacts to jurisdictional waters.
- Development of an alternative mitigation plan for impacts to jurisdictional waters.

2.4.3 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 (FESA) and/or the California Endangered Species Act (CESA). See the Threatened and Endangered Species section 2.4.5 in this document for detailed information about these species.

This section of the document discusses all the 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 Federal Endangered Species Act can be found at U.S. Code 16, Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, California Public Resources Code, Sections 2100-21177.

Affected Environment

A Natural Environment Study for the project was completed in January 2015. The biological study area consisted of a 200-foot-wide buffer of the approximately 2-mile-long segment along State Route 269, the Arroyo Pasajero Creek Bridge site, and a potential borrow site east of the highway. Easements, including a temporary detour road, were also included in the biological study area.

The project area lies within the Arroyo Pasajero Westside Detention Basin. This basin was created to alleviate flood threats to the California Aqueduct east of the project and also to protect the City of Huron. The surrounding lands adjacent to the Arroyo Pasajero Creek were cultivated in the past, allowed to go fallow, and have since recovered to include saltbrush scrub and grassland vegetation types with a large component of invasive plant species.

Hoover's eriastrum (Eriastrum hooveri)

Hoover's eriastrum (*Eriastrum hooveri*) is an annual herb that is part of the Phlox family (*Polemoniaceae*). This plant has white tub-like flowers with flat end petals. Leaves are tread-like and woolly. This herb blooms from March through July. Hoover's eriastrum has been delisted (2003) from federal status. The Hoover's eriastrum is included in the California Native Plant Society inventory of rare and endangered plants.

Focused botanical surveys of the Westside Detention Basin were performed by the Department of Water Resources in 2003; more generalized plant surveys were performed from 1999-2002. No Hoover's eriastrum populations were found onsite during those efforts. The closest known occurrences are about 18 miles west, southwest of the project area, near Coalinga, and date from 1955 and 1987. Given the level of habitat disturbance and abundance of non-native invasive species on the project site, the potential that the species would occur is low.

Recurved larkspur (Delphinium recurvatum)

The recurved larkspur (*Delphinium recurvatum*) is an endemic perennial herb that is part of the Ranunculaceae family (*Ranunculaceae*). This plant has light blue and white flowers, with lateral petals and a spur. This herb blooms from March through June. The recurved larkspur is included in the California Native Plant Society inventory of rare and endangered plants.

Focused botanical surveys of the Westside Detention Basin were performed in 2003, and more generalized plant surveys were performed by the Department of Water Resources from 1999 to 2002. No recurved larkspur populations were found onsite during those efforts. The closest known occurrences are about 11.5 miles northwest of the project area and date from 2001. Given the distance to the closest known occurrence, the level of habitat disturbance, and abundance of non-native invasive species on the project site, the potential that the species would occur is low.

San Joaquin bluecurls (Trichostema ovatum)

The San Joaquin bluecurls (*Trichostema ovatum*) is an endemic annual herb that is part of the mint family (*Lamiaceae*). This plant has blue to purple flowers and woolly stems. This herb blooms from July through October. The San Joaquin bluecurls is included in the California Native Plant Society inventory of rare and endangered plants.

Focused botanical surveys of the Westside Detention Basin were performed by the Department of Water Resources in 2003, and more generalized plant surveys were performed from 1999 to 2002. No recurved larkspur populations were found onsite during those efforts. The closest known occurrences are about 11.5 miles northwest of the project area and date from 2001. Given the distance to the closest known occurrence, the level of habitat disturbance, and abundance of non-native invasive species on the project site, the potential that the species would occur is low.

Environmental Consequences

The Natural Environment Study evaluated the potential of Hoover's eriastrum, recurved larkspur, and San Joaquin bluecurls to occur within the project area. There is an estimated 4.52 acres of habitat that would be permanently affected by the project and 57.71 acres that would be temporarily affected. Based on the available survey data, it was determined that the potential of these species occurring in the project area is low.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would be required for the protection of plant species identified in the Natural Environment Study prepared for the proposed project.

- Preconstruction surveys would be completed during the appropriate blooming periods prior to groundbreaking activities.
- If the Hoover's eriastrum, recurved larkspur, or San Joaquin bluecurls is observed onsite, Caltrans will notify the California Department of Fish and Wildlife to discuss conservation measures to be implemented.

2.4.4 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 (NOAA 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 Section 2.4.5. 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 NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

Affected Environment

A Natural Environment Study was completed in January 2015. The biological study area consisted of a 200-foot-wide buffer of the approximately 2-mile-long segment of State Route 269, the Arroyo Pasajero Creek Bridge site, and a potential borrow site east of the highway. Easements, including a temporary detour road, were also included in the biological study area.

The following species have the potential to occur in the project area:

Western spadefoot (Spea hammondi)

The western spadefoot (*Spea hammondi*) toad is a California species of special concern. This small, nocturnal toad is highly terrestrial, entering water only to breed. It inhabits a variety of habitats with sandy or gravelly soils, but requires temporary rain pools or vernal pools for breeding.

Biological surveys performed in 2001 by Department of Water Resources biologists found four instances of juvenile spadefoot toads leaving rain pools within the Westside Detention Basin property. One such occurrence was located near the north end of the

survey area on the west side of State Route 269, within the project area. A second occurrence was near the northeast corner of the proposed borrow site. The other two occurrences were not within the biological study area.

No western spadefoot toads have been observed by Caltrans biologists during surveys in 2012, 2013, and 2014. Because the spadefoot toad spends most of the year in underground burrows and is active for only short periods following rains, it is difficult for surveys to determine where or how many of toads may occur within the project area.

San Joaquin whipsnake (Masticophis flagellum ruddocki)

The San Joaquin whipsnake (*Masticophis flagellum ruddocki*) is a California species of special concern. The San Joaquin whipsnake can range from 3 to 8 feet long. Coloration is highly variable light yellow, olive brown, or occasionally reddish above, with a few faint or no neck bands.

Biological surveys performed in 2005 and 2008 by Department of Water Resources biologists provided two observations of this species outside of, but in proximity to, the project biological study area. However, no San Joaquin whipsnakes were observed onsite during surveys performed by Caltrans biologists in 2012, 2013, and 2014. The biological study area and project impact area both contain potentially suitable habitat for this species. San Joaquin whipsnakes are likely to be present in the biological study area since they have been observed near there within the last six years.

Burrowing owl (Athene cunicularia)

The burrowing owl (*Athene cunicularia*) is a California species of special concern. It is the only owl in North America that nests in underground burrows. 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. Burrowing owls can be active during the day or night.

Previous survey efforts by Department of Water Resource biologists found burrowing owls within the Westside Detention Basin in May 2001, about 0.65 mile west of the project site and south of the proposed borrow site. Owls were also seen outside of the biological study area, about 1 mile northeast of Huron.

Level II protocol burrowing owl surveys were conducted across the project site and proposed borrow site by Caltrans biologists in January 2014. No burrowing owls or signs of occupancy were found. The habitat within the biological study area is suitable for burrowing owls.

Loggerhead shrike (Lanius ludovicianus)

The loggerhead shrike (*Lanius ludovicianus*), a songbird, is a California species of special concern and is also protected by the Migratory Bird Treaty Act. Loggerhead shrikes were observed twice on the project site during Caltrans biological survey efforts, on January 28, 2014 and March 26, 2014. On both occasions, they were in the cottonwood trees next to the Arroyo Pasajero channel 100-200 yards west of State Route 269, perched, singing, and hunting. Loggerhead shrikes have also been seen periodically

during survey efforts for other species performed by Department of Water Resources biologists from 2002 to 2012. The loggerhead shrikes have not been observed nesting in the project area.

American badger (Taxidea taxus)

The American badger (*Taxidea taxus*) is a California species of special concern. The closest recording of the American badger is about 1 mile south of the project site near Huron. The California Natural Diversity Database record for this sighting does not provide a date. The record notes do indicate that a specimen was “collected” and thus may refer to a road-killed individual.

While no surveys specifically for the American badger have been performed onsite, annual surveys for small mammals, blunt-nosed leopard lizards, and other species performed by Department of Water Resource biologists since 1999, and several biological surveys performed by Caltrans biologists from 2012 to 2014, have all failed to observe any sign of badger activity within the biological study area. However, the habitat appears to be suitable and a prey base of relatively abundant small mammals is also available. Based on the proximity of recorded sightings, habitat suitability, and available prey, the presence of American badgers is possible within the biological study area.

Migratory birds

According to the Natural Environment Study completed in January 2015, bird species protected by the Migratory Bird Treaty Act of 1918 and California Department of Fish and Game Code Section 3511 use the study area for roosting, nesting, and foraging year-round. Birds covered by the Migratory Bird Treaty Act are protected from hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any bird, or any part nest or egg. State fully protected species (including their parts) may not be taken or possessed at any time. Birds within California have an approximate breeding and nesting season from February 15 to September 1. See Appendix D for a list of the species observed within the proposed project area.

Environmental Consequences

Western spadefoot

The project area does contain suitable habitat for the western spadefoot, and the species has been observed in the area within the last 14 years. Any excavation, grading, or compaction of suitable soils within the project area has the potential to injure or kill underground western spadefoots by crushing or entombment. The proposed project is anticipated to affect 67.12 acres of suitable habitat; of these, 5.22 acres would be permanent impacts associated mostly with the widening of State Route 269 and the installation of the new bridge and training dikes. The remaining 61.9 acres are temporary impacts, mainly due to the temporary detour road and borrow site. The species may attempt to breed in any pools that form within the project area should significant rain occur during construction. In that case, eggs, tadpoles, or dispersing juvenile metamorphs could be killed by vehicles, equipment, or personnel traveling through or near breeding pools. After construction, affected habitat would be expected to regain suitability as vegetation recovers and soils stabilize.

San Joaquin whipsnake

The project site contains suitable habitat and an appropriate prey base for the San Joaquin whipsnake. The proposed project is anticipated to affect 67.12 acres of suitable habitat; of these, 5.22 acres would be permanent impacts associated mostly with the widening of State Route 269 and the installation of the new bridge and training dikes. The remaining 61.9 acres are temporary impacts, mainly due to the temporary detour road and borrow site. These areas would be restored after construction is complete. Snakes taking refuge in rodent burrows may be entombed or crushed by vehicles and heavy equipment. Disturbance to whipsnakes may result from equipment noise, motion, vibrations, dust, and human presence. Snakes moving along the ground can move very quickly and can avoid disturbance and are less likely to be harmed by construction equipment.

Burrowing owl

The proposed project is expected to affect approximately 67.12 acres of potentially suitable foraging and nesting habitat for the burrowing owl; of these, 5.22 acres would be permanent impacts associated mostly with the widening of State Route 269 and the installation of the new bridge and training dikes. The remaining 61.9 acres are temporary impacts, mainly due to the temporary detour road and borrow site.

Construction activity may cause disturbance impacts to hunting areas along the State Route 269 corridor, and potentially to nesting areas within 500 feet of State Route 269 and the proposed bridge site. Disturbance may result from equipment noise, motion, vibrations, dust, and human presence. However, construction activities that would disturb small prey species (such as lizards and mice) could enhance hunting opportunities for the burrowing owl as prey species may flee the area and become exposed. However, the most current surveys have not located any indications that burrowing owls occur within or next to the biological study area. The potential that burrowing owls would be affected by the proposed project is very low.

Loggerhead shrike

It is not anticipated that the proposed project would have any direct habitat impacts to the loggerhead shrike because no trees are anticipated to be removed. Construction activities may cause disturbance impacts to hunting areas along the State Route 269 corridor. Disturbance may result from equipment noise, motion, vibrations, dust, and human presence. However, construction activities that would disturb small prey species (such as lizards and mice) could enhance hunting opportunities for the shrike as the prey species may flee the area and become exposed.

American badger

The proposed project is within the historical range for this species, and badgers may occur in the area. The proposed project is expected to affect 67.12 acres of potentially suitable habitat; of these, 5.22 acres would be permanent impacts associated mostly with the widening of State Route 269 and the installation of the new bridge and training dikes. The remaining 61.9 acres are temporary impacts, mainly due to the temporary detour road and borrow site.

Heavy equipment would compact soils and possibly collapse any existing burrows within the work area. Disturbance may also result from equipment noise, motion, vibrations, dust, and human presence. This would affect both badgers and their prey species (kangaroo rats and ground squirrels) within and next to the work area. With implementation of the avoidance and minimization measures, no direct impacts to the American badger are expected to occur.

Migratory birds

No tree removal is anticipated for construction of the proposed project. However, suitable nesting habitat for migratory birds is present within the biological study area and the project area.

Avoidance, Minimization, and/or Mitigation Measures

No compensatory mitigation is required. The following are avoidance and minimization measures for each species:

Western spadefoot

A preconstruction survey would be performed within 30 days prior to construction if a rain sufficient to result in persistent puddles occurs in the biological study area. Persistent puddles are those that would pool for 3 to 7 consecutive days.

- Persistent rain pools discovered during the preconstruction surveys, or forming during construction, would be designated as an Environmentally Sensitive Area (ESA) and avoided where possible.
- A qualified biological monitor would be present onsite during initial ground disturbance.
- Ground-disturbing night work may be restricted, especially on nights during or following rains of sufficient intensity to result in persistent puddles and pools.

San Joaquin whipsnake

- Preconstruction surveys would be conducted to avoid potential impacts to this species.
- A qualified biologist would be present at the construction site during initial ground-disturbing activities.
- Requiring low speed limits within the construction site would lessen the probability that snakes could be run over by vehicles and equipment.

Burrowing owl

- Preconstruction surveys would be performed within 500 feet of the project impact area no more than 30 days prior to the start of construction to determine any presence or sign of burrowing owl occupancy.

- Active burrowing owl burrows would be protected by a 150-foot-radius Environmentally Sensitive Area (ESA) outside of the nesting season (September 1 to January 31).
- Active burrowing owl burrows would be protected by a 500-foot-radius Environmentally Sensitive Area during the nesting season (February 1 to August 31).
- If active burrows are located within a construction area that cannot be avoided by a protection buffer, passive relocation efforts would be implemented by installing one-way exclusion doors on burrow entrances, and providing artificial burrows constructed nearby (within 50-100 yards if possible). A minimum of 6.5 acres of contiguous foraging habitat would be available within a 300-foot radius around the new burrow site per owl pair or resident single bird. All passive relocation work would be performed by qualified biologists.
- Occupied burrowing owl burrows discovered during the preconstruction surveys and/or those protected by Environmentally Sensitive Area buffers would be monitored by a qualified biologist during construction activities occurring in proximity to the Environmentally Sensitive Area buffer.
- All burrowing owls avoidance and minimization guidelines would conform to the “*Burrowing Owl Survey Protocol and Mitigation Guidelines*” (California Burrowing Owl Consortium, 1993).

Loggerhead shrike

- Nesting surveys would be conducted during the nesting season (February 15 to September 1) prior to the start of construction to determine if any loggerhead shrikes are nesting within 250 feet of the project impact area.
- If nesting loggerhead shrikes are observed onsite, then a 250-foot-radius Environmentally Sensitive Area would be established around the nest until it has been determined by a qualified biologist that the young have fledged.
- A qualified biologist would monitor active nests during construction activities within the project 250-foot-radius Environmentally Sensitive Area.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Removal of trees within the project impact area would be done outside of the nesting season, if tree removal is needed. At this time, tree removal is not anticipated for construction of the proposed project.

American badger

- A pre-construction survey would be performed by a qualified biologist no more than 30 days prior to the start of construction. If badgers are determined to be living and/or foraging within the biological study area during surveys, avoidance measures, such as Environmental Sensitive Area (ESA) fencing, would be implemented where feasible.

- A qualified biological monitor would be present during initial ground-disturbing activity. Any badgers discovered during project activity would be allowed to leave the area free of harassment.

Migratory birds

- Nesting surveys would be conducted during the nesting season (February 15 to September 1) prior to the start of construction to determine what migratory are nesting within 100 feet of the project impact area.
- If nesting migratory birds are observed onsite, a qualified biologist would determine if an Environmentally Sensitive Area is required.
- If an Environmentally Sensitive Area is required, a qualified biologist would monitor active nests during construction activities within the project. A 100-foot-radius Environmentally Sensitive Area could be implemented.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Removal of trees within the project impact area would be done outside of the nesting season. At this time, tree removal is not anticipated for construction of the proposed project.

2.4.5 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.) Also see 50 Code of Federal Regulations Part 402. This act and subsequent 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 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 no undertaking, funding, permitting or authorizing actions are 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 is a Biological Opinion or an Incidental Take statement. Section 3 of 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 the California Endangered Species Act, California Fish and Wildlife 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 2081 of the Fish and Wildlife Code prohibits “take” of any species determined to

be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Wildlife Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife. For species listed under both the Federal Endangered Species Act and California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to the California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Wildlife 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

A Natural Environment Study was completed in January 2015. The biological study area consisted of a 200-foot-wide buffer of the 2-mile-long segment of State Route 269, the Arroyo Pasajero Creek Bridge site, and a potential borrow site east of the highway. A current U.S. Fish and Wildlife Service species list for the project is provided in Appendix E.

Easements, including a temporary detour road, were also included in the biological study area. Study methods included a review of resource agency databases, inventories of special-status species, agency coordination, field studies, assessment of vegetation and habitat characteristics, and evaluation of impacts to identified resources. These methods were designed to meet both state and federal regulations, and are described in the Natural Environment Study completed for the proposed project.

The surrounding lands adjacent to the Arroyo Pasajero Creek were cultivated in the past, allowed to go fallow, and have since recovered to include saltbrush scrub and grassland vegetation types with a large component of invasive plant species.

California jewel-flower (Caulanthus californicus)

The California jewel-flower (*Caulanthus californicus*), a federal and state listed endangered species, is also in the California Native Plant Society inventory of rare and endangered plants. The California jewel-flower is an annual herb that is part of the mustard family (*Brassicaceae*). California jewel-flowers are pouch-like at the base with white and purplish flowers and oval-shaped clasping leaves. They typically bloom from February through May.

Focused botanical surveys of the Westside Detention Basin were done by the Department of Water Resources in 2003; more generalized plant surveys were done during other survey efforts from 1999 to 2002. No California jewel-flower populations were found onsite during those efforts. The closest known populations were directly south of the project area near Huron, with the sighting recorded in 1893. Given the age of the closest recorded occurrence, the level of habitat disturbance, and abundance of non-native invasive species within the biological study area, the potential that the species occurs there is low. The biological study area does contain suitable habitat for this species.

San Joaquin woolly-threads (Monolopia congdonii)

The San Joaquin woolly-threads (*Monolopia congdonii*) is a federal listed endangered species and is also in the California Native Plant Society inventory of rare and endangered plants. The San Joaquin woolly-threads is an annual herb that is part of the sunflower family (*Asteraceae*). This species is found in sandy grasslands and alkali sink habitats. The San Joaquin woolly-threads is 2 to 12 inches long and loosely woolly. These plants are described to have wavy, narrow, oblong leaves and yellow flower heads clustered at their branch tips. They typically bloom from February through May.

Although the San Joaquin woollythreads was not found during Department of Water Resources surveys from 1999 to 2003, the project site does contain suitable habitat for this species.

Blunt-nosed leopard lizard (Gambelia sila)

The blunt-nosed leopard lizard (*Gambelia sila*) is federal listed and state listed as endangered, and is a fully protected species. The blunt-nosed leopard lizard is a scarce resident of sparsely vegetated alkali and desert scrub habitats. Blunt-nosed leopard lizards are diurnal, hibernating in the winter months and active from March to June or July. The nearest recorded observations are 7.9 miles southwest of the project site and date from 1979. Within the region, there are no records of blunt-nosed leopard lizards recorded anywhere east of the Interstate 5 corridor.

Full protocol surveys for the blunt-nosed leopard lizard have been performed annually by Department of Water Resources biologists since 2000 and are currently ongoing. These surveys have been performed over various areas within the Westside Detention Basin property; large portions of the proposed project area, including the Arroyo Pasajero channel and areas both east and west of State Route 269, have been included. No blunt-nosed leopard lizards have been observed during these surveys, and the proposed borrow site is not considered suitable blunt-nosed leopard lizard habitat due to the high vegetation density.

Swainson's hawk (Buteo swainsoni)

The Swainson's hawk (*Buteo swainsoni*) is state listed as threatened and is protected by the Migratory Bird Treaty Act. Swainson's hawks have been observed nesting, soaring, and hunting within and near the Westside Detention Basin for several years. Department of Water Resources biologists recorded nesting Swainson's hawks in 2002 and each year from 2008 through 2012 within proximity to the project area. Swainson's hawks have

consistently nested in cottonwood trees; no nesting in tamarisks has been observed. While most of the nesting activity appears to take place along the California Aqueduct east of Huron (well outside of the biological study area), there is a nesting location that has been used frequently just west of State Route 269, next to the Arroyo Pasajero channel. This nesting site is potentially within 500 to 600 feet of the proposed construction site for the new Arroyo Pasajero Creek Bridge.

Caltrans biologists performed nine Swainson's hawk and raptor surveys of the biological study area in 2013 and 2014. While these surveys did not observe any Swainson's hawk nesting within the biological study area, the species were frequently observed flying around the area, both single hawks and in pairs. Given these sightings, there is potential for Swainson's hawk to nest near or within the project area.

San Joaquin antelope squirrel (Ammospermophilus nelsoni)

The San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), also known as the Nelson's antelope squirrel, is state listed as threatened. The closest recording for the antelope squirrel is about 1 mile south of the project, near Huron, but the sighting was in 1893. The Department of Water Resources did small mammal trapping surveys at the Westside Detention Basin from 1999 to 2003. No antelope squirrels were observed or caught during these surveys. None were observed during the general biological surveys performed by Caltrans biologists from 2012 to 2014.

Giant kangaroo rat (Dipodomys ingens)

The giant kangaroo rat (*Dipodomys ingens*), the largest kangaroo rat species in California, is federal and state listed as endangered. The closest recording of giant kangaroo rat is 23.4 miles northwest of the project, and dates from 1967. Department of Water Resources biologists did small mammal trapping surveys within various portions of the Westside Detention Basin from 1999 to 2003. No giant kangaroo rat were observed or caught during these surveys. No giant kangaroo rat or signs of occupancy have been observed during the general biological surveys performed by Caltrans biologists from 2012 to 2014.

Tipton kangaroo rat (Dipodomys nitratooides nitratooides)

The Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*) is one of three subspecies of the San Joaquin kangaroo rat (*D. nitratooides*). It is listed as federal and state endangered. The closest recording of the Tipton kangaroo rat is 16 miles due east of the project area and dates from 2008. Department of Water Resources biologists did small mammal trapping surveys in various portions of the Westside Detention Basin from 1999 to 2003. No Tipton kangaroo rats were observed or caught during these surveys. Only common deer mice, pocket mice, and Heerman's kangaroo rats have been located within the Westside Detention Basin. The presence of the Heerman's kangaroo rat makes it more unlikely that Tipton kangaroo rat would also occur there because the Heerman's directly competes with the Tipton kangaroo rat. No Tipton kangaroo rats were observed within the biological study area during the general biological surveys performed by Caltrans biologists from 2012 to 2014.

Fresno kangaroo rat (Dipodomys nitratooides exilis)

The Fresno kangaroo rat (*Dipodomys nitratooides exilis*) is the second of three subspecies of the San Joaquin kangaroo rat (*Dipodomys nitratooides*) that has the potential to occur within the project area. It is listed as federal and state endangered. There have been no sightings of the Fresno kangaroo rat in Fresno County since 1992. The most recent sighting was at the Alkali Sink Ecological Reserve east of Mendota, almost 35 miles north of the project area. The closest recorded observation of the Fresno kangaroo rat was 11.6 miles northeast of the project area near the Lemoore Naval Air Station. The date of this sighting is not known, but it was before 1992.

Department of Water Resources biologists did small mammal trapping surveys in various portions of the Westside Detention Basin from 1999 to 2003. No Fresno kangaroo rats were observed or caught during these surveys. No Fresno kangaroo rats were observed within the biological study area during the general biological surveys performed by Caltrans biologists from 2012 to 2014. Given the absence of sightings of this species throughout Fresno County over the previous 22 years, it is highly unlikely to occur on or near the project site.

San Joaquin kit fox (Vulpes macrotis mutica)

The San Joaquin kit fox (*Vulpes macrotis mutica*) is federal listed as endangered and state listed as threatened. The San Joaquin kit fox is the smallest canid species in North America. The San Joaquin kit fox is found in the southern half of the state in annual grassland or grassy open stages of vegetation dominated by scattered shrubs and brush. The Endangered Species Recovery Program classifies the habitat within the Westside Detention Basin as “sub-optimal” for San Joaquin kit fox, mainly due to the density of invasive vegetation such as Russian thistle (*Salsola tragus*). The area is also isolated from the nearest suitable San Joaquin kit fox habitat in the Pleasant Valley region 6.6 miles to the southwest.

Department of Water Resources biologists performed San Joaquin kit fox spotlighting and camera station surveys throughout the Westside Detention Basin in 2001 and 2003. Canids observed during spotlighting included coyotes, feral dogs, red foxes, and one possible unconfirmed sighting of a San Joaquin kit fox. No photos of any San Joaquin kit fox were taken from any of the camera stations. Three burrows of the appropriate size for foxes were located within the biological study area by Caltrans biologists during the Phase II burrowing owl survey in 2014. None of the burrows had signs of recent occupancy, and the biologists were unable to determine if kit foxes had dug the burrows, or some other species (red foxes, coyotes) had done so.

Environmental Consequences

A Biological Assessment has been prepared, and Section 7 formal consultation will be initiated with the U.S. Fish and Wildlife Service for potential effects to federal listed species. A Biological Opinion will be issued prior to the publication of the final environmental document and included therein as an appendix.

The following plant species were evaluated:

California jewel-flower (Caulanthus californicus) and San Joaquin woolly-threads (Monolopia congdonii).

The Natural Environment Study evaluated the presence of the endangered plant species California jewel-flower and San Joaquin woolly-threads. Based on the available survey data, it was determined that the potential of these species occurring in the area is low.

The following animal species were evaluated:

Blunt-nosed leopard lizard

The proposed project would affect 43.82 acres of habitat potentially suitable for the blunt-nosed leopard lizard; of these, 5.22 acres would be permanent impacts associated mostly with the widening of State Route 269 and installation of the new bridge and training dikes. The remaining 38.6 acres are temporary impacts, due mainly to the temporary detour road and installation of the training dikes. These areas would be restored after construction is complete. The species has not been located within the biological study area during multiple years of protocol survey efforts. No take of this species is anticipated with the implementation of the avoidance and minimizations measures, though potential habitat would be affected by construction of the proposed project.

Swainson's hawk

The project is not expected to have significant habitat impacts because no trees are planned to be removed. The project is expected to result in 0.04 acre of permanent and 0.74 acre of temporary impacts to cottonwood riparian habitat due to the construction of the training dikes. Construction activity would cause disturbance impacts to hunting areas along the State Route 269 corridor and potentially to nesting areas within 600 feet of State Route 269 and the proposed bridge site. Disturbance may result from equipment noise, motion, vibrations, dust, and human presence. However, construction activities that would disturb small prey species (such as lizards and mice) could enhance hunting opportunities for the Swainson's hawk as the prey species may flee the area and become exposed. The disruption and scattering of prey species allow the Swainson's hawk to forage in recently harvested or disked agricultural fields, often while disking and/or harvesting activities are occurring.

San Joaquin antelope squirrel

The proposed project would affect 43.82 acres of potentially suitable habitat for the San Joaquin antelope squirrel; of these, 5.22 acres would be permanent impacts associated mainly with the widening of State Route 269 and the installation of the new bridge and training dikes. The remaining 38.6 acres are temporary impacts, due mainly to the temporary detour road and installation of the training dikes. These areas would be restored after construction is complete. However, no San Joaquin antelope squirrels have been observed during any survey from 1999 to present. With implementation of the avoidance and minimization measures, no impacts to the San Joaquin antelope squirrel are anticipated, though potential habitat would be affected by construction of the proposed project.

Giant kangaroo rat, Tipton kangaroo rat, and Fresno kangaroo rat

The proposed project is within the historical range for these species, but the giant kangaroo rat, Tipton kangaroo rat, and Fresno kangaroo rat are not expected to occur in the area. The proposed project would affect 43.82 acres of potentially suitable habitat; of these, 5.22 acres would be permanent impacts associated mostly with the widening of State Route 269 and the installation of the new bridge and training dikes. The remaining 38.6 acres are temporary impacts, due mainly to the temporary detour road and installation of the training dikes. These areas would be restored after construction is complete. With implementation of the avoidance and minimization measures, no direct impacts to these species are expected to occur because no sightings have been recorded since 1992 or closer than 11.6 miles to the project.

San Joaquin kit fox

Habitat within the study area contains suitable San Joaquin kit fox foraging habitat with an appropriate prey base and potential den sites. The project has the potential to affect up to 43.82 acres of sub-optimal San Joaquin kit fox habitat; of these acres, 5.22 acres are permanent impacts and 38.6 acres are temporary in that they would be restored to original grade and revegetated. Construction activity has the potential to disturb individual kit foxes due to the destruction of burrows and associated noise, vibration, dust, and the presence of workers and active equipment. This potential for disturbance would be greater during any work performed at night because the species is primarily nocturnal. However, due to the lack of recent sightings or evidence of occupancy on the project site, the potential for San Joaquin kit fox to be present on the project site is low.

Avoidance, Minimization, and/or Mitigation Measures

California jewel-flower and San Joaquin woolly-threads

No compensatory mitigation is anticipated for these species. With the following avoidance and minimization efforts, no impacts to the California jewel-flower or the San Joaquin woolly-threads are expected to occur:

- Preconstruction surveys would be completed the season prior to groundbreaking activities.
- If the California jewel-flower or San Joaquin woolly-threads is observed onsite, Caltrans would notify the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to discuss conservation measures to be implemented.

Blunt-nosed leopard lizard

With the following avoidance and minimization measures, no direct impacts to an individual blunt-nosed leopard lizard are expected to occur:

- Protocol-level preconstruction surveys within the project area to determine any presence or sign of the blunt-nosed leopard lizard would be conducted the season prior to the start of construction. Also, coordination and data-sharing with Department of Water Resources personnel regarding the blunt-nosed leopard lizard survey efforts in 2015 and 2016 would be ongoing. If blunt-nosed leopard lizards are

found by either agency within the action area, the U.S. Fish and Wildlife Service will be contacted to discuss ways to proceed with the project and avoid take to the maximum extent possible.

- A biological monitor would be onsite during initial ground-disturbing activities.
- Requiring low speed limits within the construction site will lessen the probability that blunt-nosed leopard lizards could be ran over by vehicles and equipment.

Swainson's hawk

With implementation of the following avoidance and minimization measures, no direct impacts to the Swainson's hawk are expected to occur:

- Protocol nesting surveys would be conducted during the nesting season prior to the start of construction to determine if any Swainson's hawks are nesting in proximity to the proposed project.
- Coordination and data-sharing with Department of Water Resources personnel regarding their Swainson's hawk survey efforts in 2015 and 2016 would be ongoing.
- If nesting Swainson's hawks are observed, the nest site will be designated an Environmentally Sensitive Area within a 600-foot radius around the nest until it has been determined by a qualified biologist that the young have fledged.
- A qualified biologist would monitor active nests during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Removal of trees within the project impact area would be done outside of the nesting season (tree removal is not anticipated at this time).

San Joaquin antelope squirrel

With implementation of the following avoidance and minimization measures, no impacts to an individual San Joaquin antelope squirrel are expected to occur.

- Preconstruction surveys would be performed within 30 days prior to construction to determine if the species occurs in the project area. If occupied suitable habitat is observed during surveys, avoidance measures, such as Environmentally Sensitive Area fencing, would be implemented where feasible.
- A qualified biological monitor would be present at the construction site during initial ground-disturbing activities. A U.S. Fish and Wildlife Service-approved biologist would relocate San Joaquin antelope squirrels if necessary.

Giant kangaroo rat, Tipton kangaroo rat, and Fresno kangaroo rat

With implementation of the following avoidance and minimization measures, no direct impacts to an individual giant kangaroo rat, Tipton kangaroo rat, or Fresno Kangaroo Rat are expected to occur:

- Trapping surveys no more than 30 days prior to construction would be conducted to determine if these species occurs within the project area. If occupied suitable habitat is observed during surveys, avoidance measures, such as environmentally sensitive area fencing, will be implemented where feasible.
- A qualified biological monitor would be present at the construction site during initial ground-disturbing activities. A U.S. Fish and Wildlife Service-approved biologist would relocate kangaroo rats if necessary.

San Joaquin kit fox

With implementation of the following avoidance and minimization measures, no direct impacts to an individual San Joaquin kit fox are expected to occur:

- Preconstruction/pre-activity surveys would be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to affect the San Joaquin kit fox.
- Surveys would be conducted within the proposed project boundary and a 200-foot area outside the project footprint to identify habitat features.
- Cottonwood and saltbrush vegetation along State Route 269 that is disturbed during construction would be replaced.
- If natal/pupping dens are discovered within the project area or within 200 feet of the project boundary, the U.S. Fish and Wildlife Service would be immediately notified.
- The configuration of exclusion zones around San Joaquin kit fox dens should have a 50-foot radius around potential dens and a 100-foot radius around known dens measured outward from the entrance or cluster of entrances.
- Disturbance to all San Joaquin kit fox dens would be avoided to the maximum extent possible.
- A qualified biologist would be present at the construction site during initial ground-disturbing activities.
- To the extent possible, a biologist would be available on-call during all construction periods when not present onsite.
- The U.S. Fish and Wildlife Service *Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance, Construction and On-Going Operational Requirements* would also be implemented (Appendix H).

Compensatory Mitigation Measures

The following mitigation measures are currently proposed for impacts to the San Joaquin kit fox, blunt-nosed leopard lizard, San Joaquin antelope squirrel, Tipton kangaroo rat, and Fresno kangaroo rat:

- Compensation for loss of habitat through purchase of credits from an approved mitigation bank, preservation of habitat or enhancement or restoration of habitat.

- Caltrans currently proposes to mitigate at a 3:1 ratio for permanent impacts and a 1.1:1 ratio for temporary impacts for sub-optimal habitat. Final mitigation requirements will be determined after completion of the formal Section 7 consultation process with the U.S. Fish and Wildlife Service.

2.4.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Bill 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 completed for the project in January 2015. The biological study area consisted of an approximate 2-mile-long segment along State Route 269, the Arroyo Pasajero Creek Bridge and a potential borrow site east of the highway. Easements, including a temporary detour road, were also included in the study area.

The surrounding lands next to the Arroyo Pasajero Creek were cultivated in the past, allowed to go fallow, and have since been recovered to include saltbrush scrub and grassland vegetation types with a large component of invasive plant species.

The following invasive plant species were identified within the biological study area:

- *Centaurea melitensis* – tocolote
- *Lepidium latifolium* – perennial peppergrass
- *Bassia hyssopifolia* – fivehook bassia
- *Salsola tragus* – Russian thistle
- *Convolvulus arvensis* – orchard bind-weed
- *Malvella leprosa* – alkali mallow
- *Arundo donax* – giant reed
- *Bromus madritensis ssp. rubens* – red brome
- *Sorghum halepense* – Johnson grass
- *Tamarix ramosissima* – tamarisk (salt-cedar)

Environmental Consequences

No species on the California list of invasive species are used by Caltrans for erosion control or landscaping. All equipment and materials would be inspected for the presence of invasive species.

Avoidance, Minimization, and/or Mitigation Measures

In compliance with the executive order on invasive species (Executive Order 13112) and guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species listed as invasive. In areas of particular sensitivity, extra precautions would 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.

To prevent the introduction and spread of invasive species, Caltrans has issued policy guidelines that provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs. The Caltrans invasive species policy guidelines, Standard Special Provisions, and best management practices would minimize the potential that this project would introduce, transport, or spread invasive species to and/or from the project site.

2.5 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are mainly concerned with the emissions of greenhouse gases generated by human activity including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles make up the largest source of greenhouse gas-emitting sources. The dominant greenhouse gas emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting

from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)¹.

There are four main strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.²

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels.

Regulatory Setting

State

With passage of several pieces of legislation including state senate and assembly bills and executive orders, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

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 the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order established the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California's

¹ http://climatechange.transportation.org/ghg_mitigation/

² http://www.fhwa.dot.gov/environment/climate_change/mitigation/

transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor’s Office of Planning and Research to develop recommended amendments to the California Environmental Quality Act Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill required the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a “Sustainable Communities Strategy” (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for its region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State’s long-range transportation plan to meet California’s climate change goals under AB 32.

Federal

Although climate change and greenhouse gas reduction are concerns at the federal level, currently no regulations or legislation has been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.³ The Federal Highway Administration supports the approach that climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by the Federal Highway Administration to lessen climate change impacts correlate with efforts that the State is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and Executive Order 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

³ To date, no national standards have been established regarding mobile source greenhouse gases, nor has U.S. EPA established any ambient standards, criteria or thresholds for greenhouse gases resulting from mobile sources.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

The U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six greenhouse gases constitute a threat to public health and welfare. So, it is the Supreme Court's interpretation of the existing act and the EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions. The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010.⁴

The U.S. EPA and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce greenhouse gas by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, the U.S. EPA and National Highway Traffic Safety Administration issued a joint Final Rulemaking to extend the national program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards, this program is projected to save approximately four billion barrels of oil and two billion metric tons of greenhouse gas emissions.

The complementary U.S. EPA and National Highway Traffic Safety Administration standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate

⁴ <http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq>

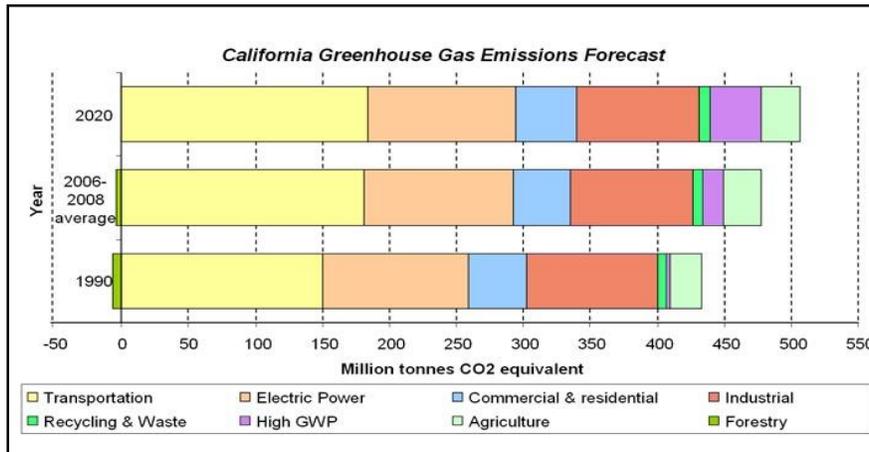
that the combined standards will reduce CO₂ emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of greenhouse gas.⁵ 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. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the Air Resources Board released the greenhouse gas inventory for California (forecast last updated: October 28, 2010). See Figure 2-1. The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the scoping plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

Figure 2-1 California Greenhouse Gas Forecast



Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

⁵ This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made emissions are from transportation, Caltrans has created and is implementing the Climate Action Program that was published in December 2006.⁶

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. The project is non-capacity enhancing and falls under the category of "Culvert/drainage/storm water work." An increase in greenhouse gas emissions during operation is not anticipated. The project could reduce greenhouse gas emissions during operation by eliminating the need to reroute or detour traffic due to flooding of State Route 269, reducing vehicle miles traveled.

CEQA Conclusion

While the project would result in a slight increase in greenhouse gas emissions during construction, it is anticipated that the project will not result in any increase in operational greenhouse gas emissions. While it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change, 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

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 AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from then-Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The plan targeted a significant decrease in traffic congestion

⁶ Caltrans Climate Action Program is located at the following web address:
http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

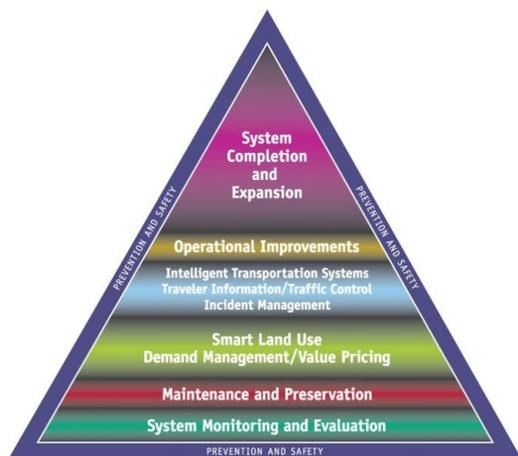


Figure 2-2 Mobility Pyramid

below 2008 levels and a corresponding reduction in greenhouse gas emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain CO₂ reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 2-2: Mobility Pyramid.

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density

housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities, but does not have local land use planning authority. It assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. Caltrans is doing this by supporting ongoing research efforts at universities, supporting legislative efforts to increase fuel economy, and participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. EPA and Air Resources Board.

Caltrans is also working toward enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill 375 (Steinberg 2008), Senate Bill 391 (Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the State's transportation needs.

Table 2.3 summarizes the departmental and statewide efforts that Caltrans is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 2.3 Climate Change/CO₂ Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings Million Metric Tons (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

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)⁷ provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures would also be included in the project to reduce greenhouse gas emissions and potential climate change impacts from the project:

1. Caltrans and the California Highway Patrol are working with regional agencies to implement Intelligent Transportation Systems (ITS) to help manage the efficiency of the existing highway system. Intelligent Transportation Systems commonly consist of electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.
2. According to Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District (APCD) rules, ordinances, and regulations for air quality restrictions. Construction measures to reduce greenhouse gas emissions include watering exposed surfaces for parking, staging areas, soil piles, graded areas and unpaved roads; limiting speeds on unpaved roads to 15 miles per hour; minimizing idling time of construction equipment when not in use by shutting off equipment or limiting idling time to 5 minutes; and maintaining equipment in accordance with manufactures specifications.
3. Climate Change/CO₂ Reduction Strategies are identified in Table 2.3.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can 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 intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

⁷ http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011⁸, outlining the federal government's progress in expanding and strengthening the nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed Executive Order S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This order set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop the California Climate Adaptation Strategy (Dec 2009)⁹, which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include public health; biodiversity and habitat; ocean and coastal resources; water management; agriculture; forestry; and transportation and energy infrastructure. As data continues to be developed and collected, the State's adaptation strategy will be updated to reflect current findings.

⁸ <http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation>

⁹ <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report¹⁰ to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- Relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.
- Range of uncertainty in selected sea level rise projections.
- Synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- Discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by the Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academy's Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

All projects that have filed a Notice of Preparation (NOP) as of the date of Executive Order S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. The department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities.

¹⁰ *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at http://www.nap.edu/catalog.php?record_id=13389.

Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

Chapter 3 **Comments and Coordination**

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods that include, but is not limited to, project development team meetings and interagency coordination meetings.

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

Agency Coordination

The following agency coordination has occurred:

Karen Dulik, Environmental Program Manager, South Central Region of California
Department of Water Resources

- February 6, 2014: Caltrans provided Ms. Dulik a memorandum describing the required Extended Phase I geoarcheological study onsite, consisting of the excavation by backhoe of 20 trenches approximately 10 feet long by 3 feet wide and up to 10 feet deep to investigate the potential cultural resources in the project area.

Christa Collin, Department of Water Resources Biologist

- March 10, 2014: Phone message responding to a query regarding the coordination of the Department of Water Resources and Caltrans' blunt-nosed leopard lizard surveys.
- July 24, 2014: Email responding to further questions regarding the Department of Water Resources' plans for biological surveys in and near the project area in 2015 and 2016.

Jen Schofield, U.S. Fish and Wildlife Service Biologist, Sacramento Office (Caltrans Liaison)

- July 23, 2014: Email stating concurrence with Caltrans' proposal to coordinate biological survey efforts with Department of Water Resources biologists during future field seasons within the project area.

Thomas Leeman, U.S. Fish and Wildlife Service Chief, San Joaquin Valley Division

- June 6, 2014: Mr. Leeman issued a Letter of Concurrence (LOC) in response to informal consultation regarding the need for excavation of test pits on the project site as required to perform an Extended Phase 1 geoarcheological study.

Laura Peterson-Diaz, California Department of Fish and Wildlife Biologist, Fresno Office (Caltrans Liaison)

- Spring 2014: Ms. Peterson-Diaz informed Caltrans by phone that a 1602 permit would not be required for the Extended Phase I geoarcheological test pit excavation as long as none of the pits were located within the bed, bank, or berm of the Arroyo Pasajero channel.
- March 26, 2014: Ms. Peterson-Diaz issued a Verification Request Form (VRF) as part of the programmatic maintenance 1602 Agreement with Caltrans to permit hand augering of soil test pits required to test for naturally occurring asbestos on the project site.
- July 23, 2014: Email stating concurrence with Caltrans' proposal to coordinate biological survey efforts with Department of Water Resources biologists during future field seasons within the project area.

Coordination with Native American Groups

In October 2012, a Sacred Lands Inventory Search was submitted to the Native American Heritage Commission requesting that the commission conduct a search of its files for any resources not previously identified during the archaeological records search conducted at the Southern San Joaquin Valley Information Center. The Native American Heritage Commission provided a list of potential Native American contacts.

Initial consultation was conducted in June 2013 with letters being sent to the tribes identified by the Native American Heritage Commission. Eleven tribes or tribal contacts were sent letters indicating that Caltrans was conducting environmental studies that would include ground-disturbing activities associated with Extended Phase I/ geoarchaeological investigations.

In accordance with 36 Code of Federal Regulations Part 800.2 (c)(1-4), the tribes were requested to comment regarding resources that may be affected by the proposed project. The letters were sent to various Yokuts and Mono tribes associated with Fresno County and the San Joaquin Valley or surrounding foothills, and included the project description, the available maps, and attachments.

Records on file indicated that Caltrans had established, in consultation with Santa Rosa Rancheria, that the project area was culturally sensitive for buried deposits (Nissen 2003). In response to the current request for comments, Santa Rosa Rancheria again responded to Caltrans confirming its concerns for the project. Santa Rosa Rancheria cultural resources staff initially asked to participate in the archaeological field surveys, but Caltrans arranged for them to attend a field visit separate from the survey. The field review was conducted on or around July 29, 2013. Caltrans was able to discuss the available mapping and project boundaries, including the proposed borrow site located west of the State Route 269. Subsequent emails and phone calls between Caltrans and the Santa Rosa Rancheria staff were exchanged to discuss the project schedule, the maps and the proposed testing and their intent to monitor the project as previously arranged.

The Santa Rosa Rancheria requested to be involved with and were included as participants in the Extended Phase I/geoarchaeological investigation. Consultation with the Santa Rosa Rancheria Tachi Yokuts tribe is ongoing.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Neil Bretz, Senior Transportation Engineer, P.E. B.S., Civil Engineering, California State University, Fresno; 26 years experience in transportation with Caltrans, including 16 years in Project Management. Contribution: Project Manager.

Diego Caldera, Civil Engineer, P.E. B.S. Civil Engineering, California State University, Fresno; 10 years of Hydraulics/Hydrology experience. Contribution: Hydraulics Report.

Phil Chick, Research Analyst II (GIS). B.A., Anthropology, California State University, Fresno; 14 years of environmental and GIS experience. Contribution: Prepared graphics for the environmental document.

Ronald Cummings, Senior Scientist, Parsons Corporation. Staff Augmentation Biologist for Caltrans. B.S., General Biology, Oregon State University, Corvallis, Oregon; 25 years wildlife management and environmental assessment experience. Contribution: Completed the Natural Environment Study and Biological Assessment.

Rajeev Dwivedi, Associate Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; more than 20 years of environmental technical studies experience. Contribution: Completed the Water Quality Assessment Report, Noise Compliance, and Air Quality Compliance Memos.

Manny T. Marcos, Transportation Engineer, P.E. B.S., Civil Engineering, California State University, Fresno; 16 years of Design and 1 year of Construction experience with Caltrans. Contribution: Project Design Engineer.

Mandy Marine, Associate Environmental Planner/Native American Coordinator, Archaeologist. B.A., Anthropology, California State University, Fresno; more than 20 years of California archaeology experience. Contribution: Coordinated Native American outreach for the project.

Michelle Miller, Environmental Planner (Archaeology). B.A., Anthropology, California State University, Fresno; 7 years of environmental planning experience. Contribution: Cultural Coordinator. Completed the Historical Property Survey Report/Archeological Survey Report for the project.

Michelle Ray, Senior Environmental Planner. B.S., Environmental Toxicology and Biology, University of California, Riverside; 9 years of planning experience and 3 years biology experience. Contribution: Branch Chief of the Sierra Pacific Environmental Analysis Branch.

Jeff Sorensen, Associate Environmental Planner. B.A., Business Administration, California State University, Fresno; 34 years of land use, transportation and environmental planning experience. Contribution: Completed the Initial Study/Environmental Assessment and coordinated the environmental process for the project.

Lea Spann, Associate Environmental Planner. B.A., Environmental Studies, University of California, Santa Barbara; 21 years of hazardous waste/materials experience and 5 years of environmental planning experience. Contribution: Completed the Initial Site Assessment/Hazardous Waste Compliance memo and the Preliminary Site Investigation Results memo for the project.

Richard C. Stewart, Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; more than 20 years of hazardous waste and water quality experience; 7 years of paleontology/geology experience. Contribution: Prepared the paleontology memo for the project.

Appendix A California Environmental Quality Act Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. 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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix A • California Environmental Quality Act Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix A • California Environmental Quality Act Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. 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?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix A • California Environmental Quality Act Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix A • California Environmental Quality Act Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix A • California Environmental Quality Act Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XV. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix A • California Environmental Quality Act Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
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March 2013

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

A handwritten signature in blue ink, appearing to read "Malcolm Dougherty".

MALCOLM DOUGHERTY
Director

"Caltrans improves mobility across California"

Appendix C Farmland Conservation 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 9/5/14	4. Sheet 1 of 1	
1. Name of Project Arroyo Pasajaro Creek bridge project		5. Federal Agency Involved FHWA		
2. Type of Project Transportation		6. County and State Fresno, CA		
PART II (To be completed by NRCS)		1. Date Request Received by NRCS 9-19-14	2. Person Completing Form Jose Bermudez	
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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>	4. Acres Irrigated Average Farm Size 1,153,812 285	
5. Major Crop(s) Grapes-Tomatoes-Almonds		6. Farmable Land in Government Jurisdiction Acres: 1,250,984 32%	7. Amount of Farmland As Defined in FPPA Acres: 597,055 15.6%	
8. Name Of Land Evaluation System Used California - Storie system		9. Name of Local Site Assessment System None	10. Date Land Evaluation Returned by NRCS 9-23-14	

	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
PART III (To be completed by Federal Agency)				
A. Total Acres To Be Converted Directly	23.22			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0			
C. Total Acres In Corridor	23.22			
PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	23.22			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
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)	85			
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	15		
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	0		
6. Creation Of Nonfarmable Farmland	25	0		
7. Availability Of Farm Support Services	5	5		
8. On-Farm Investments	20	10		
9. Effects Of Conversion On Farm Support Services	25	0		
10. Compatibility With Existing Agricultural Use	10	0		
TOTAL CORRIDOR ASSESSMENT POINTS	160	60	0	0
PART VII (To be completed by Federal Agency)				
Relative Value Of Farmland (From Part V)	100	85	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	60	0	0
TOTAL POINTS (Total of above 2 lines)	260	145	0	0

1. Corridor Selected: Build Alt.	2. Total Acres of Farmlands to be Converted by Project: 23.22	3. Date Of Selection: 9/30/14	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
5. Reason For Selection: THE BUILD ALTERNATIVE IS THE ONLY ALTERNATIVE THAT MEETS THE PURPOSE & NEED.			

Signature of Person Completing this Part: Jeff Johnson DATE: 9/30/14

NOTE: Complete a form for each segment with more than one Alternate Corridor

Appendix D Species Survey Data within Biological Study Area

A) PLANT LIST (Based on DWR Botanical Survey Data):

Scientific Name	Common Name	Form	Status/Notes
AMARANTHACEAE			
<i>Amaranthus blitoides</i>	prostrate pigweed	herb	Native
<i>Amaranthus retroflexus</i>	pigweed	herb	Introduced
ASCLEPIADACEAE			
<i>Asclepias fascicularis</i>	whorled or narrow-leaved milkweed	perennial herb	Native
ASTERACEAE			
<i>Achyrachaena mollis</i>	blow-wives	herb	Native
<i>Ambrosia psilostachya</i>	western ragweed	herb	Native
<i>Anthemis cotula</i>	dog-fennel, mayweed	herb	Introduced
<i>Artemisia californica</i>	California sage	shrub	Native
<i>Artemisia douglasiana</i>	mugwort	herb	Native
<i>Baccharis pilularis</i>	chaparral broom, coyote brush	shrub	Native
<i>Baccharis salicifolia</i>	mulefat	shrub	Native
<i>Centaurea melitensis</i>	tocolote	herb	Noxious weed CalEPPC List B
<i>Chamomilla suaveolens</i>	pineapple weed or chamomile	herb	Introduced
<i>Conyza canadensis</i>	horseweed	herb	Native
<i>Filago gallica</i>	herba impia	herb	Native
<i>Gnaphalium luteo-album</i>	pearly everlasting	herb	Native
<i>Gutierrezia californica</i>	California matchweed	shrub	Native
<i>Helianthus annuus</i>	sunflower	herb	Native
<i>Heterotheca grandiflora</i>	telegraph weed	herb	Native
<i>Isocoma acradenia</i>	goldenbush	shrub	Native
<i>Lactuca serriola</i>	prickly lettuce	herb	Introduced
<i>Lasthenia californica</i>	California goldfields	herb	Native
<i>Silybum marianum</i>	blessed milk thistle	herb	Introduced
<i>Sonchus asper</i>	prickly sow thistle	herb	Introduced
<i>Sonchus oleraceus</i>	common sow thistle	herb	Introduced
<i>Xanthium strumarium</i>	common cocklebur	herb	Native
BORAGINACEAE			
<i>Amsinckia menziesii</i> ssp. <i>intermedia</i>	farmer's fireweed	herb	Native
<i>Amsinckia menziesii</i> ssp. <i>menziesii</i>	farmer's fireweed	herb	Native
<i>Heliotropium curassavicum</i>	heliotrope	herb	Native
<i>Pectocarya penicillata</i>	winged pectocarya	prostrate herb	Introduced
BRASSICACEAE			
<i>Brassica nigra</i>	black mustard	herb	Introduced
<i>Capsella bursa-pastoris</i>	shepherd's purse	herb	Introduced
<i>Hirschfeldia incana</i>	field mustard	herb	Introduced

Appendix D • Species Survey Data within Biological Study Area

<i>Lepidium latifolium</i>	perennial peppergrass	herb	Noxious weed CalEPPC A-1/CDFA B
<i>Sinapsis arvensis</i>	Charlock	herb	Introduced
<i>Sisymbrium irio</i>	London rocket	herb	Introduced
<i>Sisymbrium orientale</i>	Oriental sisymbrium	herb	Introduced
CARYOPHYLLACEAE			
<i>Spergularia macrotheca</i> var. <i>leucantha</i>	large-flowered sand-spurrey	herb	Native
<i>Stellaria media</i>	common chickweed	herb	Introduced
CHENOPODIACEAE			
<i>Atriplex lentiformis</i>	quailbush	shrub	Native
<i>Atriplex polycarpa</i>	valley saltbush	shrub	Native
<i>Bassia hyssopifolia</i>	fivehook bassia	herb	Noxious weed CalEPPC List B
<i>Chenopodium album</i>	lamb's quarters	herb	Introduced
<i>Chenopodium multifidum</i>	goosefoot	shrub	Introduced
<i>Chenopodium murale</i>	nettleleaf goosefoot	herb	Introduced
<i>Monolepis nuttalliana</i>	poverty weed	herb	Native
<i>Salsola tragus</i>	Russian thistle	herb	Noxious weed CDFA List C
CONVOLVULACEAE			
<i>Convolvulus arvensis</i>	orchard bind-weed	herb	Noxious weed CDFA List C
<i>Cressa truxillensis</i>	alkali weed	herb	Native
CRASSULACEAE			
<i>Crassula connata</i>	pygmy-weed	herb	Native
CUCURBITACEAE			
<i>Marah fabaceus</i>	man-root, wild cucumber	perennial vine	Native
CUSCUTACEAE			
<i>Cuscuta</i> sp.	dodder	parasitic herb	Native
CYPERACEAE			
<i>Eleocharis macrostachya</i>	common spikerush	aq. herb	Native
EUPHORBIACEAE			
<i>Chamaesyce maculata</i>	prostrate spurge	herb	Introduced
<i>Eremocarpus setigerus</i>	doveweed, turkey mullein	herb	Native
FABACEAE			
<i>Astragalus oxyphysus</i>	Diablo locoweed	herb	Introduced
<i>Lotus purshianus</i>	Spanish clover	herb	Native
<i>Lotus wrangelianus</i>	Chile Hosackia	herb	Native
<i>Lupinus succulentus</i>	arroyo lupine	herb	Native
<i>Medicago polymorpha</i>	California burclover	herb	Introduced
<i>Medicago sativa</i>	alfalfa	herb	Introduced
<i>Melilotus alba</i>	white sweetclover	herb	Introduced
<i>Melilotus indica</i>	sourclover	herb	Introduced
<i>Trifolium microcephalum</i>	maiden clover	herb	Native
<i>Vicia</i> sp.	vetch	herb	Introduced
GERANIACEAE			
<i>Erodium cicutarium</i>	red-stemmed filaree	herb	Introduced
HIPPOCASTANACEAE			
<i>Aesculus californica</i>	buckeye	tree	Native
LAMIACEAE			
<i>Marrubium vulgare</i>	white horehound	herb	Introduced

Appendix D • Species Survey Data within Biological Study Area

<i>Salvia columbariae</i>	chia	herb	Native
MALVACEAE			
<i>Malva parviflora</i>	cheeseweed, little mallow	herb	Introduced
<i>Malvella leprosa</i>	alkali mallow	herb	Noxious weed CDFA C/Native
ONOGRACEAE			
<i>Epilobium brachycarpum</i>	willow herb	herb	Native
<i>Oenothera elata</i>	Hooker's evening-primrose	herb	Native
POACEAE			
<i>Arundo donax</i>	giant reed	perennial	Noxious weed CalEPPC A-1
<i>Avena fatua</i>	wild oat	herb	Introduced
<i>Bromus diandrus</i>	ripgut brome	herb	Introduced
<i>Bromus hordeaceus</i>	soft chess	herb	Introduced
<i>Bromus madritensis ssp. rubens</i>	red brome	herb	Noxious weed CalEPPC list A-2
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	herb	Introduced
<i>Hordeum murinum ssp. glaucum</i>	foxtail barley	herb	Introduced
<i>Phalaris minor</i>	Mediterranean canarygrass	herb	Introduced
<i>Polypogon monspeliensis</i>	annual beardgrass	herb	Introduced
<i>Schismus barbata</i>	Mediterranean grass	herb	Native
<i>Sorghum halepense</i>	Johnson grass	herb	Noxious weed CDFA List C
<i>Vulpia myuros var myuros</i>	rat-tail fescue	herb	Introduced
POLYGONACEAE			
<i>Rumex crispus</i>	curly dock	herb	Introduced
SALICACEAE			
<i>Populus fremontii</i>	Fremont cottonwood	tree	Native
<i>Salix exigua</i>	sandbar willow	shrub/tree	Native
<i>Salix gooddingii</i>	Goodding's willow	tree	Native
SCROPHULARIACEAE			
<i>Mimulus guttatus</i>	common large monkey-flower	herb	Native
<i>Verbascum thapsus</i>	common mullein	herb	Introduced
SOLANACEAE			
<i>Datura wrightii</i>	tolguacha, Jimson weed	herb	Native
<i>Nicotiana glauca</i>	tree tobacco	shrub/tree	Introduced
TAMARICACEAE			
<i>Tamarix aphylla</i>	athel	tree	Introduced
<i>Tamarix ramosissima</i>	tamarisk, salt-cedar	shrub or tree	Noxious CalEPPC List A-1
TYPHACEAE			
<i>Typha latifolia</i>	common cat-tail	aq. herb	Native
VERBENACEAE			
<i>Verbena litoralis</i>	shore vervain	herb	Introduced
ZYGOPHYLLACEAE			
<i>Tribulus terrestris</i>	puncture vine	herb	Introduced

B) ANIMAL LIST (Combined data from DWR and Caltrans Surveys)

Scientific Name	Common Name	Special Status ⁽¹⁾
AMPHIBIANS		
<i>Bufo boreas</i>	Western toad	
<i>Spea hammondi</i>	Spadefoot toad	CSC
REPTILES		
<i>Pituophis melanoleucus</i>	Gopher snake	
<i>Masticophis flagellum ruddocki</i>	San Joaquin whipsnake	CSC
<i>Lampropeltis getulus</i>	Common kingsnake	
<i>Lampropeltis getulus californiae</i>	California kingsnake	
<i>Cnemidophorus tigris</i>	Western whiptail	
<i>Sceloporus magister</i>	Desert spiny lizard	
<i>Sceloporus occidentalis</i>	Western fence lizard	
<i>Uta stansburiana</i>	Common side-blotched lizard	
BIRDS		
<i>Cathartes aura</i>	Turkey vulture	
<i>Circus cyaneus</i>	Northern harrier	
<i>Buteo jamaicensis</i>	Red-tailed hawk	
<i>Buteo swainsoni</i>	Swainson's hawk	CSC
<i>Falco sparverius</i>	American kestrel	
<i>Geococcyx californianus</i>	Greater roadrunner	
<i>Bubo virginianus</i>	Great horned owl	
<i>Tyto alba</i>	Barn owl	
<i>Athene cunicularia</i>	Burrowing owl	CSC
<i>Charadrius vociferus</i>	Killdeer	
<i>Callipepla californica</i>	California quail	
<i>Zenaida macroura</i>	Mourning dove	
<i>Columba liva</i>	Rock dove	
<i>Corvus corax</i>	Common raven	
<i>Corvus brachyrhynchos</i>	American crow	
<i>Petrochelidon pyrrhonota</i>	Cliff swallows	
<i>Hirundo rustica</i>	Barn swallow	
<i>Molothrus ater</i>	Brown-headed cowbird	
<i>Agelaius phoeniceus</i>	Red-winged blackbird	
<i>Euphagus cyanocephalus</i>	Brewer's blackbird	
<i>Sturnella neglecta</i>	Western meadowlark	
<i>Myiarchus cinerascens</i>	Ash-throated flycatcher	
<i>Lanius ludovicianus</i>	Loggerhead shrike	CSC
<i>Mimus polyglottos</i>	Northern mockingbird	
<i>Piranga ludoviciana</i>	Western tanager	
<i>Dendroica coronata</i>	Yellow-rumped warbler	
<i>Passer domesticus</i>	House sparrow	

Appendix D • Species Survey Data within Biological Study Area

<i>Zonotrichia leucophrys</i>	White-crowned sparrow	
<i>Sturnus vulgaris</i>	European starling	
<i>Archilochus alexandri</i>	Black-chinned hummingbird	
<i>Thryomanes bewickii</i>	Bewick's wren	
<i>Turdus migratorius</i>	American robin	
<i>Guiraca caerulea</i>	Blue grosebeak	
<i>Tyrannus verticalis</i>	Western kingbird	
<i>Icterus bullockii</i>	Bullock's oriole	
<i>Cardulis lawrencei</i>	Lawrence's goldfinch	
<i>Carpodacus mexicanus</i>	House finch	
MAMMALS		
<i>Felis catus</i>	Feral cat	
<i>Lynx rufus</i>	bobcat	
<i>Canis familiaris</i>	Feral dog	
<i>Canis latrans</i>	Coyote	
<i>Vulpes vulpes</i>	Red fox	
Order: <i>Chiroptera</i>	Unknown bat species	
<i>Thomomys bottae</i>	Botta's pocket gopher	
<i>Mus musculus</i>	House mouse	
<i>Peromyscus maniculatus</i>	Deer mouse	
<i>Chaetodipus californicus</i>	California pocket mouse	
<i>Dipodomys heermanni</i>	Heerman's kangaroo rat	
<i>Lepus californicus</i>	Black-tailed jackrabbit	
<i>Sylvilagus auduboni</i>	Desert cottontail	
<i>Procyon lotor</i>	Raccoon (tracks)	
<i>Otospermophilus beecheyi</i>	California ground squirrel	

Appendix E U.S. Fish and Wildlife Service Species List, CNPS Species List and CNDDDB Query

Sacramento Fish & Wildlife Office Species List

Page 1 of 4

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested
Document Number: 140916042230
Current as of: September 16, 2014

Quad Lists

Listed Species

Invertebrates

- Branchinecta lynchi*
vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus*
valley elderberry longhorn beetle (T)

Fish

- Hypomesus transpacificus*
delta smelt (T)

Amphibians

- Ambystoma californiense*
California tiger salamander, central population (T)
- Rana draytonii*
California red-legged frog (T)

Reptiles

- Gambelia (=Crotaphytus) sila*
blunt-nosed leopard lizard (E)
- Thamnophis gigas*
giant garter snake (T)

Mammals

- Dipodomys ingens*
giant kangaroo rat (E)
- Dipodomys nitratooides exilis*
Fresno kangaroo rat (E)
- Dipodomys nitratooides nitratooides*
Tipton kangaroo rat (E)
- Vulpes macrotis mutica*
San Joaquin kit fox (E)

Plants

- Caulanthus californicus*
California jewelflower (E)
- Monolopia congdonii (=Lembertia congdonii)*
San Joaquin woolly-threads (E)

Quads Containing Listed, Proposed or Candidate Species:

http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists.cfm

9/16/2014

HURON (314A)
GUJARRAL HILLS (314B)
HARRIS RANCH (337C)
CALFLAX (337D)

County Lists

No county species lists requested.

Key:

- (E) *Endangered* - Listed as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](#). Consult with them directly about these species.
- Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning

process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 15, 2014.

CNPS Species List

CNPS
California Native Plant Society
Rare and Endangered Plant Inventory

Home
About the Inventory
CNPS Home
Join CNPS
Simple Search
Advanced Search

Plant List

7 matches found. [Click on scientific name for details](#)

Search Criteria
Found in 9 Quads around 36120B1

[Modify Search Criteria](#)
 [Export to Excel](#)
 [Modify Columns](#)
 [Modify Sort](#)
 Display Photos

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	4.2	S3.2	G4T3
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	1B.2	S2	G2
Caulanthus californicus	California jewel-flower	Brassicaceae	annual herb	1B.1	S1	G1
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	1B.2	S3	G3
Eriastrum hooveri	Hoover's eriastrum	Polemoniaceae	annual herb	4.2	S3.2	G3
Monolopia congdonii	San Joaquin woollythreads	Asteraceae	annual herb	1B.2	S2	G2
Trichostema ovatum	San Joaquin bluecurls	Lamiaceae	annual herb	4.2	S3.2	G3

Suggested Citation

CNPS, Rare Plant Program. 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website <http://www.rareplants.cnps.org> [accessed 17 September 2014].

Appendix F Minimization and/or Mitigation Summary

The following section describes the avoidance, minimization and/or mitigation measures that would be required for construction of the proposed project.

Utilities

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

Emergency Services

- A traffic management plan would be developed to minimize delays and maximize safety during construction. The traffic management plan could include, but is not limited to, the following:
 - Release of information through brochures and mailers, press releases, and advertisements managed by the public information office.
 - Use of fixed and portable changeable message signs.
 - Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management plan.

Traffic and Transportation/Pedestrian and Bicycle Facilities

A traffic management plan including, but not limited to the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office.
- Use of fixed and portable changeable message signs.
- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center.
- Use of one-way traffic control.
- Construction of a detour road for use during construction.
- Bridge railing will be required as appropriate for the safe travel of bicyclists.

Visual/Aesthetics

- Provide bridge types and railings keeping with the rural environment to minimize visual impacts.

- Slopes should not exceed a gradient of 1:3. Slopes that are designed at gradients of 1:2 or steeper will require the written concurrence of District Landscape Architect, Maintenance, and the Stormwater Coordinator.
- Tops and toes of slopes should be rounded to create a natural appearance.
- All exposed disturbed soil areas will require permanent erosion control application, which will restore the disturbed project area to natural vegetation.

Cultural Resources

- Consulting Native American tribes and a Caltrans archaeologist would monitor construction activities involving excavation as needed and determined by the Caltrans archeologist and Caltrans Native American Coordinator. If buried cultural materials are encountered during construction, work would stop in that area until a qualified archaeologist could evaluate the nature and significance of the find.
- If human remains are exposed during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance should occur until the county coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98.

Water Quality and Stormwater Runoff

Design Features

- To protect water quality, control erosion and prevent washout within the project area, a training dike with rock slope protection along the dike embankments will be used to protect the banks of the Arroyo Pasajero channel east and west of the bridge.

Temporary Construction Measures

- **Standard temporary construction site and permanent**—Design pollution prevention and permanent stormwater treatment best management practices would be used during and after project construction to control potential discharges of pollutants to surface water. Best management practices would be designed to control general gross pollutants and sedimentation/siltation, depending on location.
- **Stormwater Best Management Practices**—A National Pollutant Discharge Elimination System Stormwater Permit is required for the project along with any subsequent permit in effect at the time of construction. The contractor must comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Construction Activities. The contractor will use best management practices as specified in the Caltrans Stormwater Management Plan.
- **Prepare and Implement a Stormwater Pollution Prevention Plan**—The contractor will be required to develop an acceptable Stormwater Pollution

Prevention Plan. The Stormwater Pollution Prevention Plan would contain best management practices that have demonstrated effectiveness at reducing storm water pollution. The Stormwater Pollution Prevention Plan would address all construction-related activities, equipment, and materials with the potential to affect water quality. All construction site best management practices would follow the latest edition of the Stormwater Quality Handbooks and Construction Site Best Management Practices Manual to control and minimize the impacts of construction-related pollutants. The Stormwater Pollution Prevention Plan would include best management practices to control pollutants, sediment from erosion, stormwater runoff, and other construction-related impacts. In addition, the Stormwater Pollution Prevention Plan would include the use of specific stormwater effluent monitoring requirements based on the project's risk level to ensure that the best management practices are effective in preventing the degradation of any water quality standards.

Hazardous Waste and Materials

The proposed project would have no significant adverse effect on hazardous waste and materials because the following measures would reduce potential effects to insignificance:

- Special provisions would be included in the construction contract addressing the potential hazardous materials/hazardous waste issues for lead and asbestos to ensure proper handling, disposal, and worker/public safety.
- Asbestos levels exceeded the regulatory threshold of 1.0%. Soil from Palmer Avenue to Marmon Avenue would be encapsulated within the project area by placing 6 inches of clean soil or paving over it, or the soil would be excavated to a depth of 1 foot and hauled off as a hazardous waste.

Biological Resources

Natural Communities

Mitigation Measures (by way of reseeding):

In areas where saltbush scrub or cottonwood riparian habitat would be temporarily affected by construction, mitigation would be required by way of reseeding and/or revegetating the areas where the vegetation was removed. The temporary impact areas would be restored to original grade and planted with native saltbrush and/or cottonwood vegetation, where appropriate, after construction. Revegetation of the saltbrush scrub would be required by the U.S. Fish and Wildlife Service per the San Joaquin Kit Fox Protection Measures listed in Appendix H.

Wetlands and Other Waters

Avoidance, Minimization, and Mitigation Measures:

Best management practices would be included so the smallest practical footprint would be in place to minimize temporary, indirect, and permanent impacts to waters of the United States. Work would take place only when Arroyo Pasajero Creek is dry. In addition, the proposed project would incorporate standard Caltrans best management practices to prevent impacts related to degradation of the Arroyo Pasajero Creek.

If Arroyo Pasajero Creek is determined to be jurisdictional, Caltrans would obtain permits from the U.S. Army Corps of Engineers (404 Nationwide Permit), California Regional Water Quality Control Board (401 Certification) and California Department of Fish and Wildlife (Streambed Alteration Agreement). These permits will identify measures to mitigate impacts to the Arroyo Pasajero Creek. All proposed permits are listed in section 1.5 “Permits and Approvals Needed” in this report.

To ensure no net loss of waters of the United States, one or more of the following options could compensate for the permanent loss of waters, if Arroyo Pasajero Creek is determined to be jurisdictional:

- In-lieu fee payments may be required to compensate for impacts to jurisdictional waters.
- Dedication of mitigation lands for impacts to jurisdictional waters.
- Development of an alternative mitigation plan for impacts to jurisdictional waters.

Plant Species

Avoidance and Minimization Measures:

The following measures would be required for the protection of plant species.

- Preconstruction surveys would be completed during the appropriate blooming periods prior to groundbreaking activities.
- If a Hoover’s eriastrum, recurved larkspur, or San Joaquin bluecurls is observed onsite, Caltrans will notify the California Department of Fish and Wildlife to discuss conservation measures to be implemented.

Animal Species

Avoidance and Minimization Measures:

Western spadefoot

- A preconstruction survey would be performed within 30 days prior to construction if a rain event sufficient to result in persistent puddles occurs in the

biological study area. Persistent puddles are those that would pool for 3 to 7 consecutive days.

- Persistent rain pools discovered during the preconstruction surveys, or forming during construction, would be designated as an Environmentally Sensitive Area (ESA) and avoided where possible.
- A qualified biological monitor would be present onsite during initial ground disturbance.
- Ground-disturbing night work may be restricted, especially on nights during or following rain events of sufficient intensity to result in persistent puddles and pools.

San Joaquin whipsnake

- Preconstruction surveys would be conducted to avoid potential impacts to this species.
- A qualified biologist would be present at the construction site during initial ground-disturbing activities.
- Requiring low speed limits within the construction site would lessen the probability that snakes could be run over by vehicles and equipment.

Burrowing owl

- Preconstruction surveys would be performed within 500 feet of the project impact area no more than 30 days prior to the start of construction to determine any presence or sign of burrowing owl occupancy.
- Active burrowing owl burrows would be protected by a 150-foot-radius Environmentally Sensitive Area outside of the nesting season (September 1 to January 31).
- Active burrowing owl burrows would be protected by a 500-foot-radius Environmentally Sensitive Area during the nesting season (February 1 to August 31).
- If active burrows are located within a construction area that cannot be avoided by a protection buffer, passive relocation efforts would be implemented by installing one-way exclusion doors on burrow entrances, and providing artificial burrows constructed nearby (within 50-100 yards if possible). A minimum of 6.5 acres of contiguous foraging habitat would be available within a 300-foot radius around the new burrow site per owl pair or resident single bird. All passive relocation work would be performed by qualified biologists.
- Occupied burrowing owl burrows discovered during the preconstruction surveys and/or those protected by Environmentally Sensitive Area buffers would be monitored by a qualified biologist during construction activities occurring in proximity to the Environmentally Sensitive Area buffer.

- All burrowing owls avoidance and minimization guidelines would conform to the “*Burrowing Owl Survey Protocol and Mitigation Guidelines*” (California Burrowing Owl Consortium, 1993).

Loggerhead shrike

- Nesting surveys would be conducted during the nesting season (February 15 to September 1) prior to the start of construction to determine if any loggerhead shrikes are nesting within 250 feet of the project impact area.
- If nesting loggerhead shrikes are observed onsite, then a 250-foot-radius Environmentally Sensitive Area, would be established around the nest until it has been determined by a qualified biologist that the young have fledged.
- A qualified biologist would monitor active nests during construction activities within the project 250-foot-radius Environmentally Sensitive Area.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Removal of trees within the project impact area would be done outside of the nesting season. At this time, tree removal is not anticipated for construction of the proposed project.

American badger

- A preconstruction survey would be performed by a qualified biologist no more than 30 days prior to the start of construction. If badgers are determined to be living and/or foraging within the biological study area during surveys, avoidance measures, such as Environmental Sensitive Area fencing, would be implemented where feasible.
- A qualified biological monitor would be present during initial ground-disturbing activity. Any badgers discovered during project activity would be allowed to leave the area free of harassment.

Migratory birds

- Nesting surveys would be conducted during the nesting season (February 15 to September 1) prior to the start of construction to determine what migratory birds are nesting within 100 feet of the project impact area.
- If nesting migratory birds are observed onsite, a qualified biologist would determine if an Environmentally Sensitive Area is required.
- If an Environmentally Sensitive Area is required, a qualified biologist would monitor active nests during construction activities within the project. A 100-foot-radius Environmentally Sensitive Area could be implemented.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.

- Removal of trees within the project impact area would be done outside of the nesting season. At this time, tree removal is not anticipated for construction of the proposed project.

Threatened and Endangered Species

Avoidance and Minimization Measures:

California jewel-flower and San Joaquin woolly-threads

No compensatory mitigation is anticipated for these species. With the following avoidance and minimization efforts, no impacts to the California jewel-flower or the San Joaquin woolly-threads are expected to occur:

- Preconstruction surveys would be completed the season prior to groundbreaking activities.
- If the California jewel-flower or San Joaquin woolly-threads is observed onsite, Caltrans would notify the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to discuss conservation measures to be implemented.

Blunt-nosed leopard lizard

With the following avoidance and minimization measures, no direct impacts to an individual blunt-nosed leopard lizard are expected to occur:

- Protocol-level preconstruction surveys within the project area to determine any presence or sign of the blunt-nosed leopard lizard would be conducted the season prior to the start of construction. Also, coordination and data-sharing with Department of Water Resources personnel regarding its blunt-nosed leopard lizard survey efforts in 2015 and 2016 would be ongoing. If blunt-nosed leopard lizards are found by either agency within the action area, the U.S. Fish and Wildlife Service will be contacted to discuss ways to proceed with the project and avoid take to the maximum extent possible.
- A biological monitor would be onsite during initial ground-disturbing activities.
- Requiring low speed limits within the construction site will lessen the probability that blunt-nosed leopard lizards could be run over by vehicles and equipment.

Swainson's hawk

With implementation of the following avoidance and minimization measures, no direct impacts to the Swainson's hawk are expected to occur:

- Protocol nesting surveys would be conducted during the nesting season prior to the start of construction to determine if any Swainson's hawks are nesting in proximity to the proposed project.

- Coordination and data-sharing with Department of Water Resources personnel regarding their Swainson's hawk survey efforts in 2015 and 2016 would be ongoing.
- If nesting Swainson's hawks are observed, the nest site will be designated an Environmentally Sensitive Area within a 600-foot radius around the nest until it has been determined by a qualified biologist that the young have fledged.
- A qualified biologist would monitor active nests during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Removal of trees within the project impact area would be done outside of the nesting season (tree removal is not anticipated at this time).

San Joaquin antelope squirrel

With implementation of the following avoidance and minimization measures, no impacts to an individual San Joaquin antelope squirrel are expected to occur:

- Preconstruction surveys would be performed within 30 days prior to construction to determine if the species occurs in the project area. If occupied suitable habitat is observed during surveys, avoidance measures, such as Environmentally Sensitive Area fencing, would be implemented where feasible.
- A qualified biological monitor would be present at the construction site during initial ground-disturbing activities. A California Department of Fish and Wildlife approved biologist would relocate San Joaquin antelope squirrels if necessary.

Giant kangaroo rat, Tipton kangaroo rat, and Fresno kangaroo rat

With implementation of the following avoidance and minimization measures, no direct impacts to an individual giant kangaroo rat, Tipton kangaroo rat, or Fresno kangaroo rat are anticipated to occur:

- Trapping surveys no more than 30 days prior to construction would be conducted to determine if these species occurs within the project area. If occupied suitable habitat is observed during surveys, avoidance measures, such as environmentally sensitive area fencing, will be implemented where feasible.
- A qualified biological monitor would be present at the construction site during initial ground-disturbing activities. A U.S. Fish and Wildlife Service-approved biologist would relocate kangaroo rats if necessary.

San Joaquin kit fox

With implementation of the following avoidance and minimization measures, no direct impacts to an individual San Joaquin kit fox are expected to occur:

- Replace the cottonwood and saltbrush vegetation along State Route 269 that is disturbed during construction.
- Preconstruction/pre-activity surveys would be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to affect the San Joaquin kit fox.
- Surveys would be conducted within the proposed project boundary and a 200-foot area outside the project footprint to identify habitat features.
- If natal/pupping dens are discovered within the project area or within 200 feet of the project boundary, the U.S. Fish and Wildlife Service would be immediately notified.
- The configuration of exclusion zones around San Joaquin kit fox dens should have a 50-foot radius around potential dens and a 100-foot radius around known dens measured outward from the entrance or cluster of entrances.
- Disturbance to all San Joaquin kit fox dens would be avoided to the maximum extent possible.
- A qualified biologist would be present at the construction site during initial ground-disturbing activities.
- To the extent possible, a biologist would be available on-call during all construction periods when not present onsite.
- The U.S. Fish and Wildlife Service *Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance, Construction and On-Going Operational Requirements* would also be implemented (Appendix H).

Mitigation Measures

In addition, the proposed project would have no significant adverse effect on biological because the following mitigation measures would reduce potential effects to insignificance:

- Compensation for loss of habitat through purchase of credits from an approved mitigation bank, preservation of habitat or enhancement or restoration of habitat.
- Caltrans currently proposes to mitigate at a 3:1 ratio for permanent impacts and a 1.1:1 ratio for temporary impacts for sub-optimal habitat. Final mitigation requirements will be determined after the completion of the formal Section 7 consultation process with the U.S. Fish and Wildlife Service.

Invasive Species

Avoidance and Minimization Measures:

- In compliance with the Executive Order on Invasive Species, Executive Order 13112, and guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as invasive.

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.

- To prevent the introduction and spread of invasive species, Caltrans has issued policy guidelines that provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs. The Caltrans invasive species policy guidelines, Standard Special Provisions, and best management practices would minimize the potential that this project would introduce, transport, or spread invasive species to and/or from the project site.

Climate Change/Air Quality

- Caltrans Standard specifications pertaining to dust control and dust palliative requirements will reduce and control emission impacts during construction.

Appendix G List of Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Species	Status ⁽¹⁾	Possible in Which Habitat Type	Ac. Habitat Impacts Perm/Temp	Species Impacts Expected After AMMs ⁽²⁾ ?	FESA Determination
California jewel-flower	FE, SE	Ruderal, but not in alkaline soils	3.79/47.71	No, unlikely to occur onsite.	<i>May affect, not likely to adversely affect.</i>
San Joaquin woolly-threads	FE	Ruderal and salt-brush	3.97/53.61	No, unlikely to occur onsite.	<i>May affect, not likely to adversely affect.</i>
Vernal pool fairy shrimp	FT	Vernal pools	0	No, no habitat onsite.	<i>No effect.</i>
Valley elderberry longhorn beetle	FT	Elderberry bushes, usually in riparian areas	0	No, no habitat onsite.	<i>No effect.</i>
Delta smelt	FT	Semi-saline aquatic habitat in the Bay Delta region	0	No, no habitat onsite, not upstream of suitable habitat.	<i>No effect.</i>
California tiger salamander, central population	FT	Vernal pools in open grasslands and brushy habitats	0	No, no habitat onsite.	<i>No effect.</i>
California red-legged frog	FT	Pools, ponds, slow streams and adjacent riparian areas	0	No, no habitat onsite.	<i>No effect.</i>
Blunt-nosed leopard lizard	FE, SE, FP	Entire project area except borrow site (vegetation too dense)	5.22/38.6	No, unlikely to occur onsite.	<i>May affect, not likely to adversely affect.</i>
Giant garter snake	FT	Marshes and aquatic habitats with slow water, and adjacent uplands	0	No, no habitat onsite.	<i>No effect.</i>
Giant kangaroo rat	FE, SE	Entire project area except borrow site (vegetation too dense)	5.22/38.6	No, unlikely to occur onsite.	<i>May affect, not likely to adversely affect.</i>

Appendix G • List of Proposed Species and Critical Habitat
Potentially Occurring or Known to Occur in the Project

Species	Status ⁽¹⁾	Possible in Which Habitat Type	Ac. Habitat Impacts Perm/Temp	Species Impacts Expected After AMMs ⁽²⁾ ?	FESA Determination
Fresno kangaroo rat	FE, SE	Entire project area except borrow site (vegetation too dense)	5.22/38.6	No, unlikely to occur onsite.	<i>May affect, not likely to adversely affect.</i>
Tipton kangaroo rat	FE, SE	Entire project area except borrow site (vegetation too dense)	5.22/38.6	No, unlikely to occur onsite.	<i>May affect, not likely to adversely affect.</i>
San Joaquin kit fox	FE, ST	Entire project area except borrow site (vegetation too dense)	5.22/38.6	Possible. Species not observed but may occur onsite.	<i>May affect, not likely to adversely affect.</i>

Appendix H San Joaquin Kit Fox Protection Measures

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

Prepared by the Sacramento Fish and Wildlife
Office
January
2011

INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. **However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act) and does not preclude the need for section 7 consultation or a section 10 incidental take permit for the proposed project.** Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). These protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

IS A PERMIT NECESSARY?

Certain acts need a permit from the Service which includes destruction of any known (occupied or unoccupied) or natal/pupping kit fox dens. Determination of the presence or absence of kit foxes and /or their dens should be made during the environmental review process. All surveys and monitoring described in this document must be conducted by a qualified biologist and these activities do not require a permit. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, the biologist(s) must be able to identify coyote, red fox, gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount. Resumes of biologists should be submitted to the Service for review and approval prior to any survey or monitoring work occurring.

SMALL PROJECTS

Small projects are considered to be those projects with small foot prints, of approximately one acre or less, such as an individual in-fill oil well, communication tower, or bridge repairs. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features and utilize this information as guidance to situate the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then surveys should be conducted and the Service should be contacted for technical assistance to determine the extent of possible take.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Kit foxes change dens four or five times during the summer months, and change natal dens one or two times per month (Morrell 1972). Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol). Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.

If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/preactivity survey reveals an active

natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.

If the take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping den which may not be destroyed while occupied. A take authorization/permit is required to destroy these dens even after they are vacated. Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: Linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project and those requirements supersede any requirements found in this document.

EXCLUSION ZONES

In order to avoid impacts, construction activities must avoid their dens. The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances due to the length of dens underground. The following distances are **minimums**, and if they cannot be followed the Service must be contacted. Adult and pup kit foxes are known to sometimes rest and play near the den entrance in the afternoon, but most above-ground activities begin near sunset and continue sporadically throughout the night. Den definitions are attached as Exhibit A.

Potential den** - 50feet

Atypical den** - 50 feet

Known den* - 100 feet

Natal/pupping den (occupied and unoccupied) - Service must be contacted

*Known den: To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Acceptable fencing includes untreated wood particle-board, silt fencing, orange construction fencing or other fencing as approved by the Service as long as it has openings for kit fox ingress/egress and keeps humans and equipment out. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

**Potential and Atypical dens: Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface- disturbing activity should be prohibited or greatly restricted within the exclusion zones.

DESTRUCTION OF DENS

Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection. **Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service.**

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.

Natal/pupping dens: Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

Known dens: Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use.

If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities.

The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Potential dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then all construction activities shall cease and the Service shall be notified immediately.

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

Habitat subject to permanent and temporary construction disturbances and other types of ongoing project-related disturbance activities should be minimized by adhering to the following activities. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting achievement of project goals. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or

similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 13 referenced below.

3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.
9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The

program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.

10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre- project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.
11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.
12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530)934-9309. The Service should be contacted at the numbers below.
13. The Sacramento Fish and Wildlife Office and CDFG shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFG contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

EXHIBIT "A" - DEFINITIONS

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct". Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Appendix I Project Photos and Mapping

Photo 1. Flood Channel of Arroyo Pasajero at new bridge site, looking west.



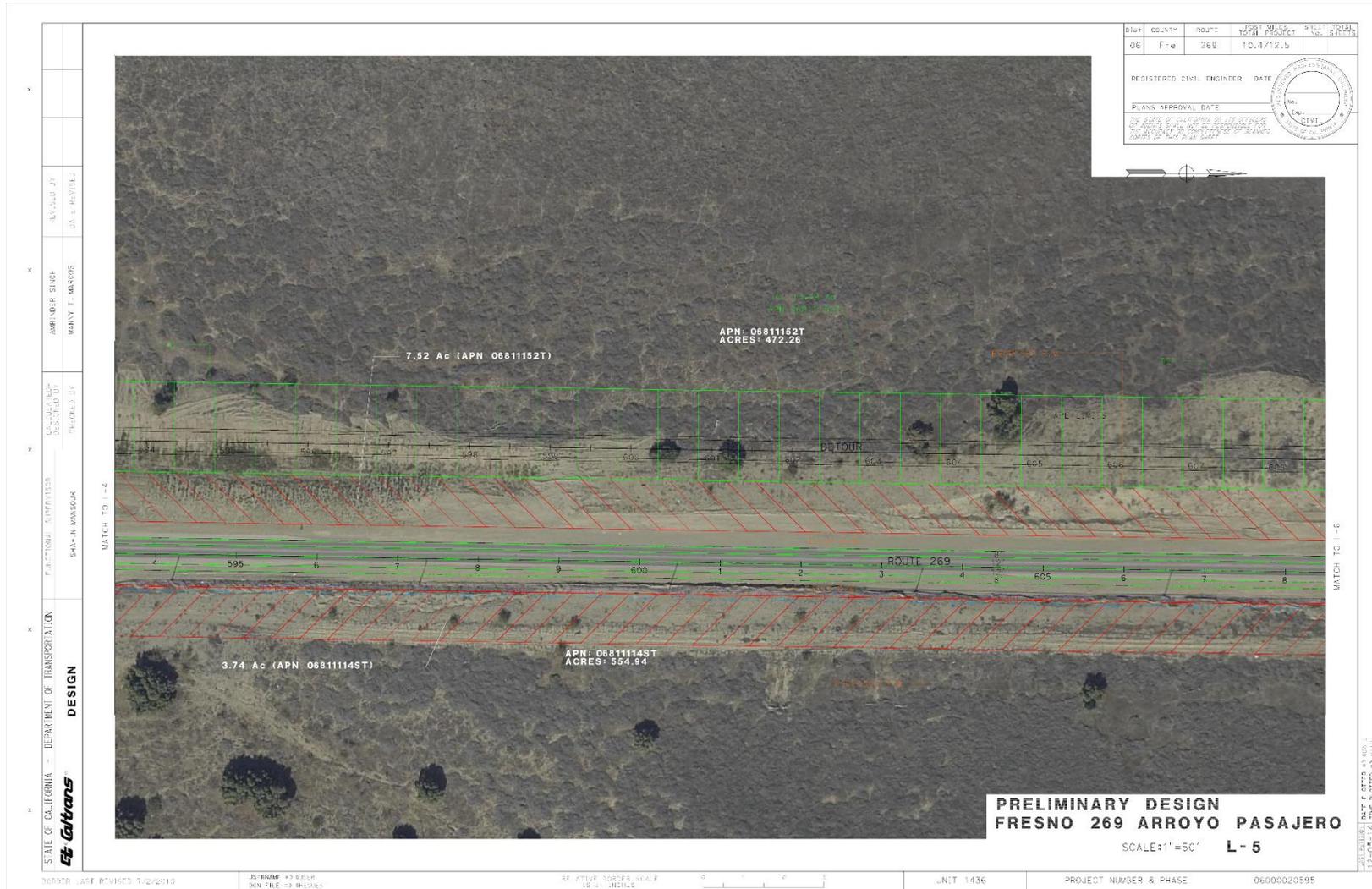
Photo 2: State Route 269, looking north from near the north side of the Arroyo Pasajero channel.



Appendix I • Project Photos and Mapping



Appendix I • Project Photos and Mapping



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL No. SHEETS
06	Fres	269	10.47/12.5	

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA BY THE OFFICER OF PUBLIC WORKS AND THE REGISTERED CIVIL ENGINEER FOR THE COUNTY OF CALIFORNIA COUNTY OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FUNCTION: DESIGNER
NAME: N. MANOSAK

DESIGNER'S DESIGN NO.
PROJECT NO.

APPROVED BY
DATE

NO. 0078 LAST REVISED 7/2/2010

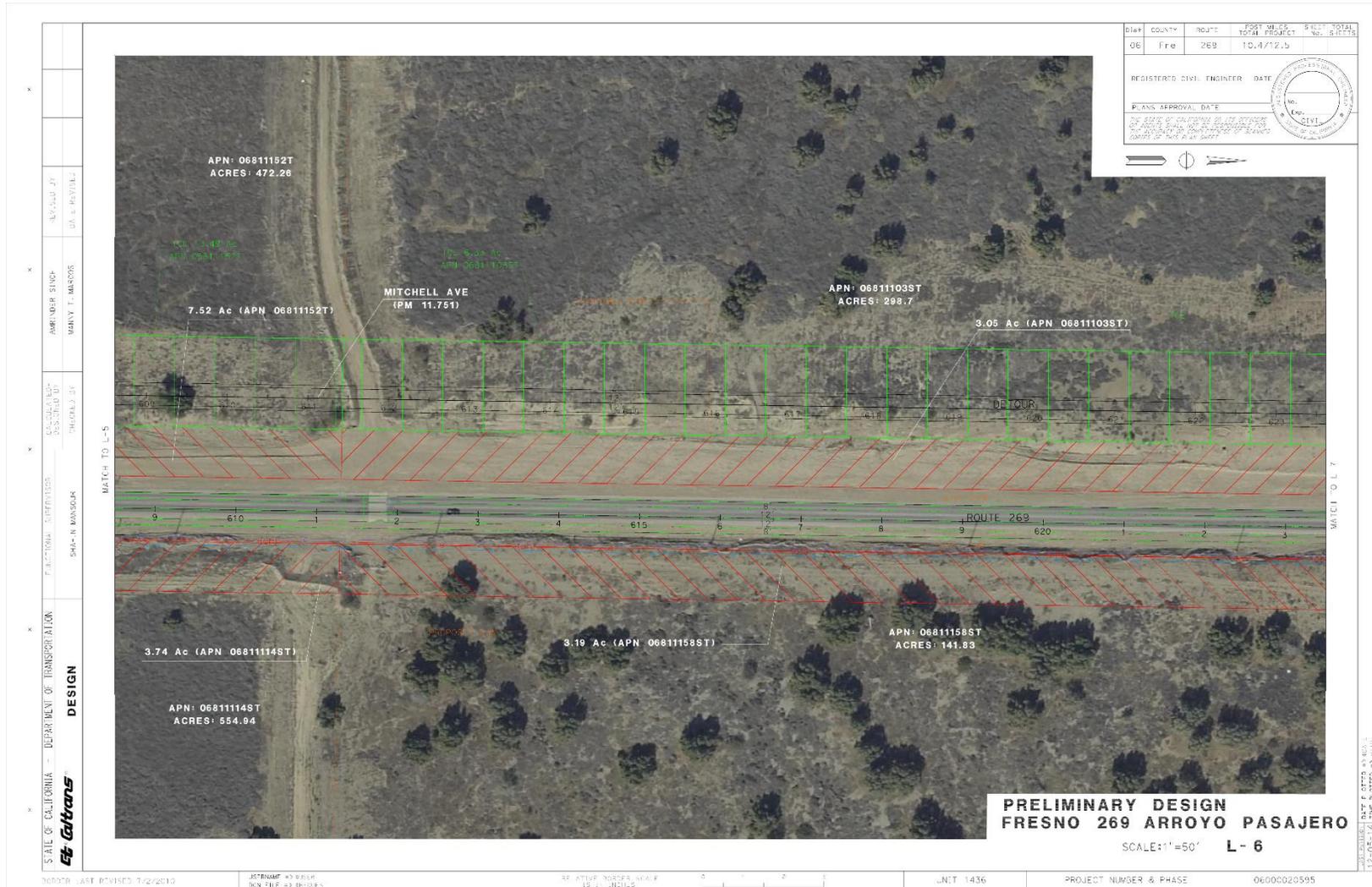
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DGN FILE 43 888885

REF: 1"=50' SCALE
18 IN. UNITS

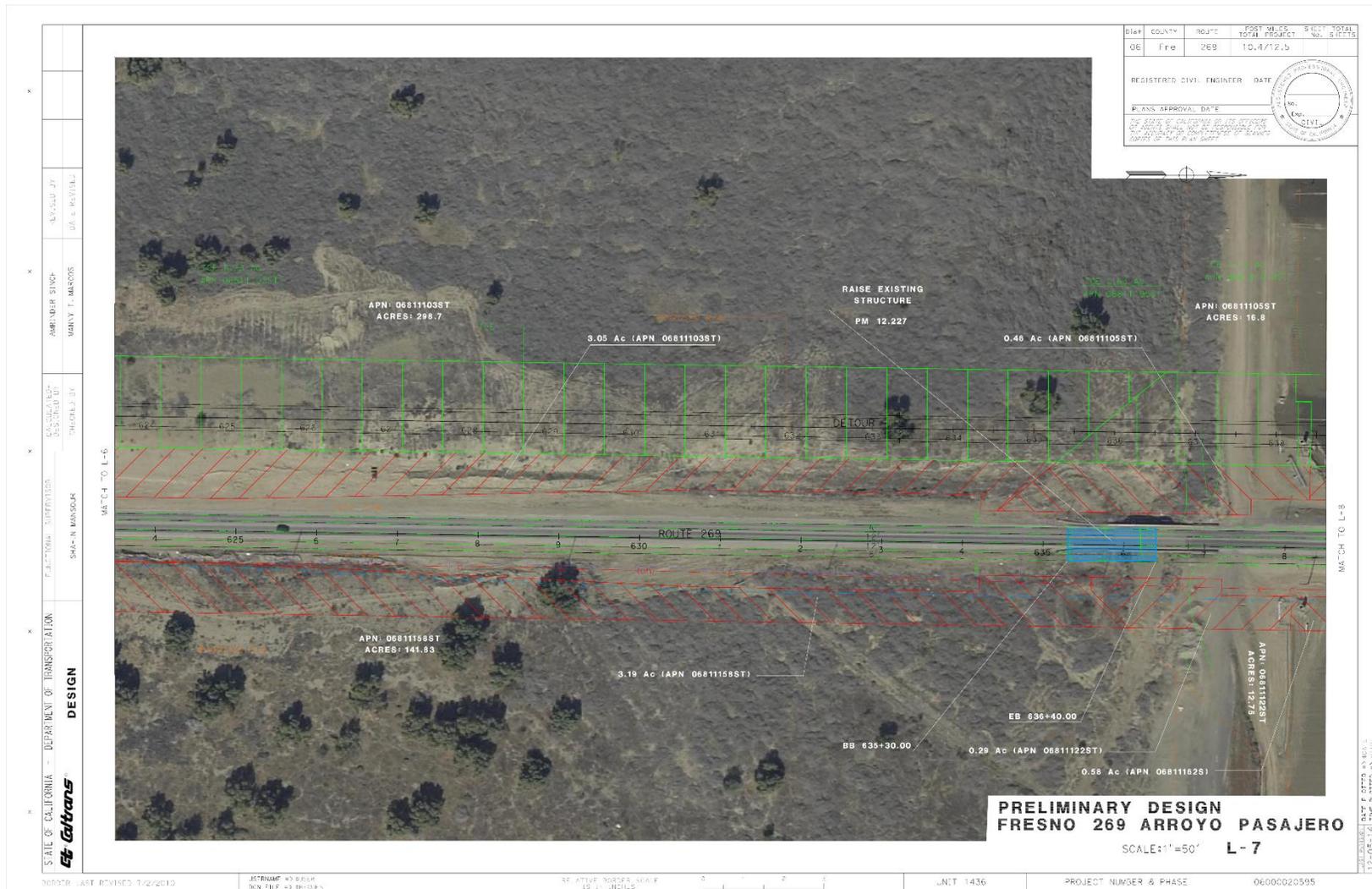
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UNIT 1436

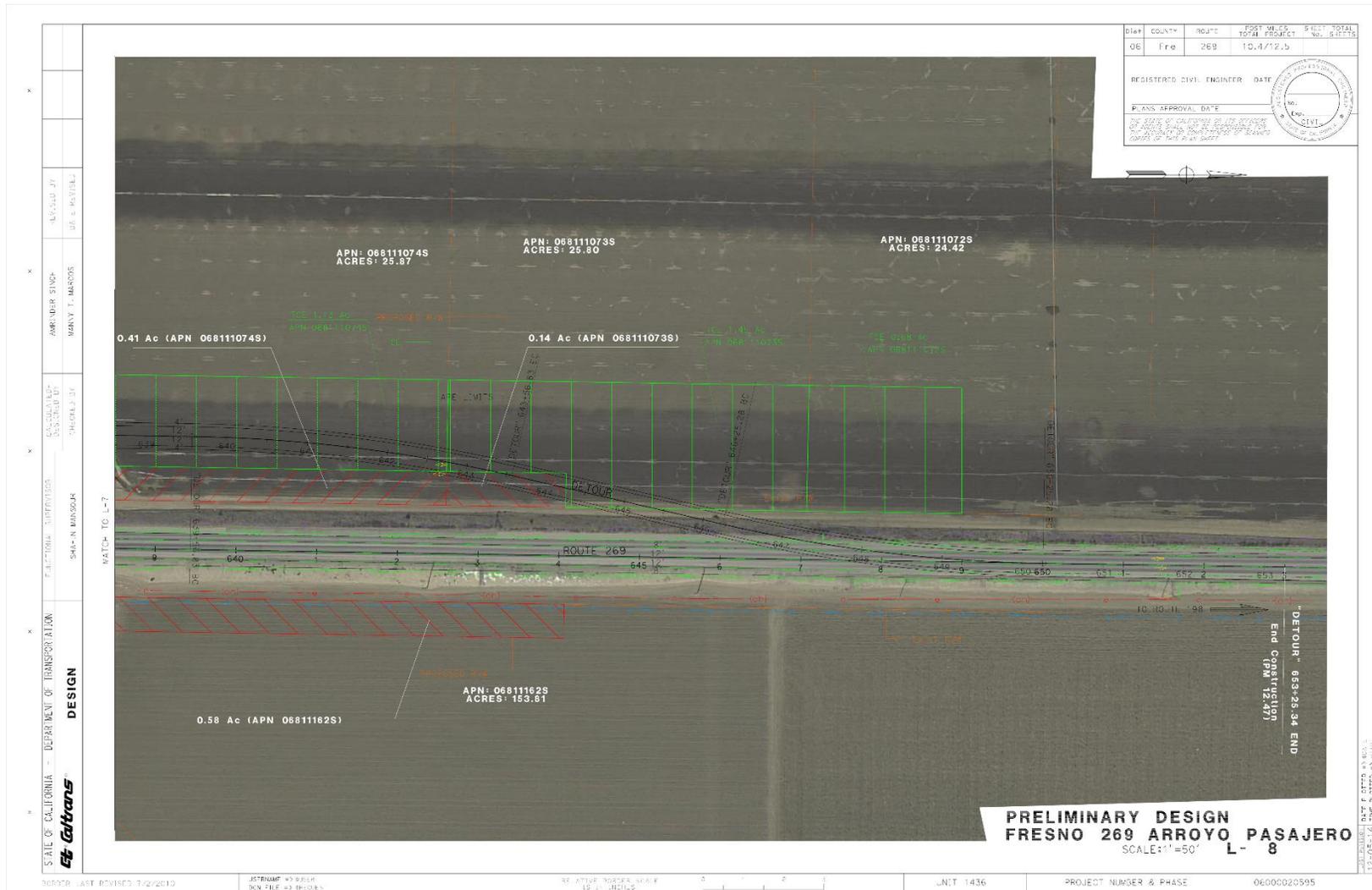
PROJECT NUMBER & PHASE 0600020595



Appendix I • Project Photos and Mapping



Appendix I • Project Photos and Mapping



List of Technical Studies

- Air And Noise Study, September 19, 2014
- Water Quality Assessment Report, September 19, 2014
- Natural Environment Study, December, 2014
- Location Hydraulic Study, July 22, 2014
- Floodplain Evaluation Summary, August 2014
- Historic Property Survey Report, November 2014
 - Archaeological Survey Report, October 2014
- Hazardous Waste Reports
 - Initial Site Assessment memo, December 19, 2012
 - Preliminary Site Investigation Results memo, May 30, 2014
 - Naturally Occurring Asbestos Survey, May 2014
 - Asbestos and Lead Containing Paint Survey Report, May 2014
 - Aerially Deposited Lead and Naturally Occurring Asbestos Site Investigation Report, May 2014
- Scenic Resource Evaluation/Visual Assessment, October 15, 2014
- Paleontological Identification Report, September 30, 2014