Davis Road Bridge Replacement and Road Widening Project

MONTEREY COUNTY, CALIFORNIA
DISTRICT 5 – MON – 0 – CR
Federal Project Number BRLS-5944 (068)

Draft Environmental Impact Report/Environmental Assessment

Prepared by the
State of California Department of Transportation
and County of Monterey

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.

December 2015

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General Information about This Document

What's in this document:

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

What should you do:

- Please read this Environmental Impact Report/Environmental Assessment.
- Additional copies of this document and the related technical studies are available for review at Steinbeck Library, 350 Lincoln Avenue, Salinas, California 93901; Buena Vista Branch Library, 18250 Tara Drive, Salinas, California 93908; Caltrans District 5, 50 Higuera Street, San Luis Obispo, California 93401; and County of Monterey Public Works, 168 W. Alisal Street, 2nd Floor, Salinas, California 93901. This document may be downloaded at the following website http://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency/public-works/special-announcements-notices.
- Attend the Public Hearing. Thursday, January 14, 2016, 4:00 – 7:00 PM at the Government Center, 168 W. Alisal Street, Salinas, CA 93901 in the Monterey Room.
- We welcome your comments. If you have any comments about the proposed project, please attend the Project Public Hearing and/or send your written comments to the Department by the deadline.
    - Submit comments via postal mail to:

      Attn: Randy LaVack
      Caltrans District 5
      50 Higuera Street
      San Luis Obispo, CA 93401

      Attn: Enrique Saavedra
      County of Monterey Department of Public Works
      168 W. Alisal Street, 2nd Floor
      Salinas, CA 93901
    - Submit comments via email to:

      Randy.lavack@dot.ca.gov saavedraem@co.monterey.ca.us
    - Submit comments by the deadline: February 5, 2016

What happens next:

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

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or

write to Department of Transportation, Attn: Randy LaVack, *Environmental Planning*, 50 Higuera Street, San Luis Obispo, CA 93401, [(805)549-3182] Voice, or use the California Relay Service TTY number, 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

SCH# 2013121013
5-MON-0-CR
Federal Project Number BRLS-5944 (068)

Replace Davis Road Bridge and widen Davis Road between Blanco Road and Reservation Road in the unincorporated area of Monterey County.

DRAFT
ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT

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

THE STATE OF CALIFORNIA
Department of Transportation
and
County of Monterey

December 9, 2015
Date of Approval

Randy LaVack,
Branch Chief
District 5 Environmental Stewardship Branch
California Department of Transportation

December 9, 2015
Date of Approval

Enrique M. Saavedra,
Senior Civil Engineer
Department of Public Works
County of Monterey

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Summary

S.1 Introduction

For the Davis Road Bridge Replacement and Road Widening Project, the California Department of Transportation (Caltrans) is the lead agency under the National Environmental Policy Act (NEPA). The County of Monterey (County) is the lead agency under the California Environmental Quality Act (CEQA).

S.2 Overview of the Project Area

The Monterey County Public Works Department is proposing to replace the existing two-lane, low-level Davis Road Bridge (Bridge No. 44C-0068) over the Salinas River with a longer bridge that meets current American Association of State Highway and Transportation Officials (AASHTO) requirements. The existing Davis Road Bridge is located approximately 2 miles (mi) south of the City of Salinas in Monterey County. The County is also proposing to widen Davis Road from two lanes to four lanes for a distance of approximately 2.1 mi between Blanco Road on the north and Reservation Road on the south. The proposed project vicinity and proposed project area are illustrated in Chapter 1 on Figures 1-1 and 1-2, respectively.

S.3 Purpose and Need

S.3.1 Purpose of the Project

The primary purpose of the proposed project is to provide an arterial roadway crossing over the Salinas River that:

- Meets current structural and geometric design standards;
- Provides an all-weather crossing that can accommodate seasonal high flows of the river;
- Accommodates projected travel demand for the 2040 planning horizon at an acceptable level of service (LOS); and
- Improves traffic safety.

S.3.2 Need for the Project

Davis Road is reliably passable only during the months of May through December because floodwaters inundate the existing bridge over the Salinas River during the winter and spring months. In addition, the County has identified Davis Road as a critical link in a countywide transportation system that is needed to handle future

increases in traffic between the Cities of Salinas and Monterey as a result of regional population and employment growth. The existing capacity of Davis Road is insufficient to accommodate the projected high traffic demands through the 2040 planning horizon. Furthermore, the structural and geometric design of the roadway must be updated to improve safety. The accident rate along the Davis Road corridor is greater than the statewide average. Refer to Section 1.2.2 for more detailed information regarding the need for the proposed project.

S.4 Proposed Action

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project while avoiding or minimizing environmental impacts. There are three Alternatives being considered: a No Build Alternative and two Build Alternatives. Refer to Section 1.4 for a detailed description of the three project alternatives.

S.4.1 No Build Alternative

Under the No Build Alternative, no improvements would be made to Davis Road or the Davis Road Bridge other than routine roadway and bridge maintenance (e.g., roadway cleaning, pothole repair, inspections, and bridge clearing after a flood event). The No Build Alternative is a baseline by which to measure and compare the proposed Build Alternatives.

S.4.2 Preferred Alternative

The Preferred Alternative would widen Davis Road from two lanes to four lanes between Reservation Road and Blanco Road, which is approximately 11,164 feet (ft) (2.1 mi). The Preferred Alternative would replace the existing bridge over the Salinas River with a four-lane, 74 ft 10-inch wide bridge that would include two 12 ft lanes in each direction, an 8 ft painted median, and an 8 ft shoulder on each side that is striped for a Class II bicycle lane.

S.4.2.1 Preferred Alternative – Design Variation

The Preferred Alternative includes a design variation that would replace the northbound and southbound Class II bike lanes with a separate 8 ft wide, two-way cycle track along the east side of Davis Road from Blanco Road to Reservation Road. The Preferred Alternative – Design Variation would require changes to the roadway and bridge cross sections for the Preferred Alternative but would not change the impact limits (i.e., footprint) of the roadway widening or bridge as currently proposed

under the Preferred Alternative. Refer to Section 1.4.2.3, Preferred Alternative, for more information on the Preferred Alternative – Design Variation.

After comparing and weighing the benefits and impacts of all feasible alternatives, including Alternative 2 and the No Build Alternative, the County has identified the Preferred Alternative as the preferred alternative, subject to public review. Final identification of a preferred alternative will occur after the public review and comment period. Refer to Section 1.5, Comparison of Alternatives, for more information on this topic.

S.4.3 Alternative 2

Davis Road would remain a two-lane road under Alternative 2. Improvements would only occur between Foster Road and Reservation Road. Alternative 2 would replace the existing bridge over the Salinas River with a two-lane, 40 ft 10-inch wide bridge that would include two 12 ft travel lanes and an 8 ft shoulder on each side that is striped for a Class II bicycle lane.

S.5 Joint CEQA/NEPA Document

The project is subject to federal, as well as local (i.e., Monterey County Public Works Department) and state environmental review requirements because the Monterey County Public Works Department proposes the use of federal funds from the Federal Highway Administration (FHWA). Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. Monterey County Public Works is the project proponent and the lead agency under CEQA. FHWA's responsibility for 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 Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), codified at 23 United States Code (USC) 327(a)(2)(A). With NEPA assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions (CEs) that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment Memorandum of Understanding (MOU), projects excluded by definition, and specific project exclusions.

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

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. The Monterey County Public Works Department and Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination (NOD) will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, State, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

S.6 Project Impacts

The following table compares the potential impacts for the two Build Alternatives and the No Build Alternative.

S.6.1 Summary of CEQA Impacts

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EA, or a lower level of documentation, will be required. NEPA requires that an EA be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EA, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

Summary of Potential Impacts from the Project Alternatives

Environmental Resource	No Build Alternative	Preferred Alternative	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
Land Use	No impact.	3.09 ac of temporary construction impacts. 15.74 ac of farmland impacts.	3.09 ac of temporary construction impacts. 4.74 ac of farmland impacts.	The following measure would be applicable to both Build Alternatives: • AG-1
Consistency with State, Regional, and Local Plans	Not consistent with the regional mobility goals and objectives of the AMBAG MTIP, AMBAG MTP/SCS, the TAMC 2014 RTP, or the CTC 2014 STIP. Would not meet standards and goals of the Monterey County and City of Salinas General Plans.	Consistent with the regional mobility goals and objectives of the AMBAG MTIP, AMBAG MTP/SCS, TAMC 2014 RTP, and CTC 2014 STIP. Consistent with applicable Monterey County and City of Salinas General Plan goals and policies.	Consistent with the regional mobility goals of the AMBAG MTIP and CTC 2014 STIP. Not consistent with the 2014 MTP/SCS and the TAMC 2014 RTP. Not consistent with Monterey County and City of Salinas Circulation Elements. Consistent with applicable Monterey County and City of Salinas General Plan goals and policies.	No avoidance, minimization, and/or mitigation measures are required.
Growth	No impact.	Improves circulation system. Accommodates future travel demand.	No impact.	No avoidance, minimization, and/or mitigation measures are required.
Farmlands/ Timberlands	No Impact.	Converts 15.74 ac of farmlands. Inconsistent with three existing agricultural conservation easements.	Converts 4.74 ac of farmlands. No impacts to the agricultural conservation easements.	The following measure would be applicable to both Build Alternatives: • AG-1 The following measure would be applicable to the Preferred Alternative: • AG-2
Community Character and Cohesion	No impact.	Temporary disruptions to access during construction. No impact.	Temporary disruptions to access during construction. No impact.	The following measure would be applicable to both Build Alternatives: • T-1
Utilities/Emergency Services	No impact. Emergency service providers could be impacted by bridge closure during winter storm/high-flow events.	Temporary impacts to emergency service access during construction. Improves year-round emergency access. No impact to utility facilities or providers.	Temporary impacts to emergency service access during construction. Improves year-round emergency access. Would not improve circulation and thus may result in nominal impacts to emergency service providers. No impact to utility facilities or providers.	The following measures would be applicable to both Build Alternatives: • UES-1 • T-1

Summary of Potential Impacts from the Project Alternatives

Environmental Resource	No Build Alternative	Preferred Alternative	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Level of service would decrease. Delays would increase.	Temporary road closure during construction. Beneficial long-term traffic effects by improving the LOS and decreasing delays.	Temporary road closure during construction activities. Level of service would decrease. Delays would increase.	The following measure would be applicable to both Build Alternatives: • T-1
Visual/Aesthetics	No Impact.	Temporary visual impacts during construction, including tree removal. No long-term impact.	Temporary visual impacts during construction, including tree removal. No long-term impact.	No avoidance, minimization, and/or mitigation measures are required.
Cultural Resources	No impact.	No impact on National Register properties or to archaeological resources.	No impact on National Register properties or to archaeological resources.	The following measures would be applicable to both Build Alternatives: • CR-1 • CR-2 • CR-3
Hydrology and Floodplain	Would not provide a beneficial effect to the floodplain of the Salinas River.	Minor temporary impacts to the Salinas River floodplain. Long-term beneficial effect to the Salinas River floodplain.	Minor temporary impacts to the Salinas River floodplain. Long-term a beneficial effect to the Salinas River floodplain.	The following measure would be applicable to both Build Alternatives: • WQ-1
Water Quality and Storm Water Runoff	No impact.	Would temporarily disturb approximately 47.5 ac, resulting in an increase in the potential for soil erosion. Would permanently increase approximately 13.8 ac of impervious surface area, resulting in an increase in the generation of roadway pollutants.	Would temporarily disturb approximately 16.7 ac, resulting in an increase in the potential for soil erosion. Would permanently increase approximately 1.4 ac of impervious surface area, resulting in an increase in the generation of roadway pollutants.	The following measures would be applicable to both Build Alternatives: • WQ-1 • WQ-2 • WQ-3 • WQ-4 • WQ-5 • WQ-6
Geology, Soils, and Seismic Topography	No impact.	Excavated soil would be exposed, resulting in an increase in the potential for soil erosion during construction. Potential impacts from liquefaction, lateral spreading, and settlement if an earthquake were to occur.	Excavated soil would be exposed, resulting in an increase in the potential for soil erosion during construction. Potential impacts from liquefaction, lateral spreading, and settlement if an earthquake were to occur.	The following measures would be applicable to both Build Alternatives: • GEO-1 • WQ-6

Summary of Potential Impacts from the Project Alternatives

Environmental Resource	No Build Alternative	Preferred Alternative	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
Paleontology	No impact.	Low potential to encounter paleontological resources.	Low potential to encounter paleontological resources.	No avoidance, minimization, and/or mitigation measures are required.
Hazardous Waste/Materials	No impact.	Potential for hazardous materials (asbestos and LBP) to be encountered during demolition. Standard hazardous materials regulations would be followed. Routine maintenance activities would be required to follow applicable hazardous materials regulations.	Potential for hazardous materials (asbestos and LBP) to be encountered during demolition. Standard hazardous materials regulations would be followed. Routine maintenance activities during operation of Alternative 2 would be required to follow applicable hazardous materials regulations.	The following measures would be applicable to both Build Alternatives: • HAZ-1 • HAZ-2 • HAZ-3 • HAZ-4 • HAZ-5
Air Quality	Air quality would get worse.	Temporary increase in air pollutant emissions during construction. No long-term impacts.	Temporary increase in air pollutant emissions during construction. No long-term impacts.	The following measures would be applicable to both Build Alternatives: • AQ-1 • AQ-2 • AQ-3 • AQ-4 • AQ-5 • AQ-6 • AQ-7
Noise	Noise levels would increase.	Temporary increase in noise levels in the project area during construction. No long-term impacts.	Temporary increase in noise levels in the project area during construction. No long-term impacts.	The following measures would be applicable to both Build Alternatives: • N-1 • N-2
Energy	Would not result in potential energy savings by improving transportation efficiencies and relieving congestion.	One-time energy expenditure during construction potentially offset by the improved system functionality and traffic flow. Nominal increase in energy usage from powering the new streetlights and traffic signal. Energy would be saved in relieving congestion along Davis Road.	One-time energy expenditure during construction potentially offset by the improved system functionality and traffic flow. Nominal increase in energy usage due to the additional streetlights. Would not result in improved traffic flow that could potentially offset the additional energy usage.	No avoidance, minimization, and/or mitigation measures are required.
Natural Communities	No impacts.	Temporary impacts to: • Red willow thicket • Sandbar willow thicket • Arroyo willow thicket	Temporary impacts to: • Sandbar willow thickets • Arroyo willow thicket • Eucalyptus grove	The following measures would be applicable to both Build Alternatives: • NC-1 • NC-2

Summary of Potential Impacts from the Project Alternatives

Environmental Resource	No Build Alternative	Preferred Alternative	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
		• Eucalyptus grove • Cattail marsh • Aquatic habitat. Permanent impacts to: • Black cottonwood forest • Red willow thicket • Sandbar willow thicket • Arroyo willow thicket • Eucalyptus grove • Coast live oak • Aquatic habitat More natural river channel, benefiting riparian vegetation.	• Cattail marsh • Aquatic habitat Permanent impacts to: • Black cottonwood forest • Red willow thicket • Sandbar willow thicket • Eucalyptus grove • Coast live oak • Aquatic habitat More natural river channel, benefiting riparian vegetation.	• PS-1 • PS-2 • AS-1 • AS-8 • TE-1 • TE-2 • WQ-6
Wetlands and other Waters	No impacts.	Temporary impacts to approximately: • 0.05 ac of non-wetland waters under USACE jurisdiction • 0.21 ac to areas under CDFW jurisdiction • 0.05 ac to areas under RWQCB jurisdiction Permanent impacts to approximately: • 0.182 ac of areas under USACE jurisdiction • 0.86 ac to areas under CDFW jurisdiction • 0.182 ac to areas under RWQCB jurisdiction Increase in areas under the jurisdiction of the USACE, CDFW, and RWQCB from removal of the old bridge.	Temporary impacts to approximately: • 0.05 ac of non-wetland waters under USACE jurisdiction • 0.21 ac to areas under CDFW jurisdiction • 0.05 ac to areas under RWQCB jurisdiction Permanent impacts to approximately: • 0.005 ac of areas under USACE jurisdiction • 0.15 ac to areas under CDFW jurisdiction • 0.005 ac to areas under RWQCB jurisdiction Increase in areas under the jurisdiction of the USACE, CDFW, and RWQCB from removal of the old bridge.	The following measures would be applicable to both Build Alternatives: • WET-1 • WET-2 • WET-3 • WQ-6

Summary of Potential Impacts from the Project Alternatives

Environmental Resource	No Build Alternative	Preferred Alternative	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
Plant Species	No impacts.	No impacts to special-status plant species. Temporary impacts to 0.01 ac of red willows. Removal of 44 trees 0.01 ac of permanent impacts to a coast live oak.	No impacts to special-status plant species. No temporary impacts to riparian or nonnative trees. Removal of 14 trees 0.01 ac of permanent impacts to a coast live oak.	The following measures would be applicable to both Build Alternatives: • PS-1 • PS-2 • NC-2
Animal Species	No impacts.	Temporary impacts to pink salmon, western pond turtle, California legless lizard, two-striped garter snake, yellow warbler, yellow breasted chat, tricolor blackbird, western red bat, Monterey big-eared woodrat, and nesting birds. Beneficial permanent effects to the habitat of pink salmon, western pond turtle, California legless lizard, and two-striped garter snake. No impacts to yellow warbler, yellow breasted chat, tricolor blackbird, western red bat, Monterey big-eared woodrat, and nesting birds.	Temporary impacts to pink salmon, western pond turtle, California legless lizard, two-striped garter snake, yellow warbler, yellow breasted chat, tricolor blackbird, western red bat, Monterey big-eared woodrat, and nesting birds. Beneficial permanent effects to the habitat of pink salmon, western pond turtle, California legless lizard, and two-striped garter snake through the reconstruction of the bridge outside these species' habitats. No impacts to yellow warbler, yellow breasted chat, tricolor blackbird, western red bat, Monterey big-eared woodrat, and nesting birds.	The following measures would be applicable to both Build Alternatives: • AS-1 • AS-2 • AS-3 • AS-4 • AS-5 • AS-6 • AS-7 • AS-8 • AS-9 • AS-10 • AS-11 • WQ-6 • NC-1 • NC-2 • TE-1 • TE-2
Threatened and Endangered Species	No impacts	Potential temporary impacts to steelhead and steelhead critical habitat. Beneficial permanent effects to steelhead and steelhead critical habitat.	Potential temporary impacts to steelhead and steelhead critical habitat. Beneficial permanent effects to steelhead and steelhead critical habitat.	The following measures would be applicable to both Build Alternatives: • TE-1 • TE-2 • AS-2 • WQ-6

Summary of Potential Impacts from the Project Alternatives

Environmental Resource	No Build Alternative	Preferred Alternative	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
Invasive Species	No impacts	Potential spread of invasive plant species and movement or spread of invasive wildlife species during construction activities.	Potential spread of invasive plant species and movement or spread of invasive wildlife species during construction activities.	The following measures would be applicable to both Build Alternatives: • IS-1 • IS-2
Cumulative Impacts	No impacts	No cumulative impacts.	No cumulative impacts.	No avoidance, minimization, and/or mitigation measures are required.

ac = acres
AMBAG = Association of Monterey Bay Area Governments
APN = Assessor's Parcel Number
CDFW = California Department of Fish and Wildlife
County = County of Monterey
CTC = California Transportation Commission
LBP = lead-based paint
LOS = level of service
MTIP = Metropolitan Transportation Improvement Program
MTP/SCS = Metropolitan Transportation Plan/Sustainable Communities Strategy
National Register = National Register of Historic Places
ROW = right of way
RTP = Regional Transportation Plan
RWQCB = Regional Water Quality Control Board
STIP = State Transportation Improvement Program
TAMC = Transportation Agency of Monterey County
USACE = United States Army Corps of Engineers

CEQA, on the other hand, does require the lead agency to identify each "significant effect on the environment" resulting from the project as well as ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated, if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA.

S.6.2 Summary of Significant Unavoidable Impacts under CEQA

Even with implementation of the proposed mitigation measures, which are summarized in Section 3.4, some of the project impacts identified would still remain significant as summarized below. Refer to Chapter 3 for a more detailed discussion of impacts under CEQA.

S.6.2.1 Noise

After implementation of the Preferred Alternative and all related mitigation measures, it has been determined that the Preferred Alternative would result in a significant unavoidable impact to Receptor R-21 through exceeding both the exterior and interior allowable noise thresholds.

S.7 Coordination with Public and Other Agencies

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including a scoping meeting, interagency coordination meetings, and individual meetings with interested parties. Please refer to Chapter 4 for more detailed information regarding coordination efforts.

S.7.1 Permits and Approvals

The following table provides the permits and project approvals that may be required for construction of the proposed project.

Permits and Approvals

Agency	Permit/Approval	Status
USFWS and/or NOAA Fisheries Service	Section 7 Endangered Species Act	Because the project may affect but is not likely to adversely affect federally listed steelhead and critical habitat for steelhead, consultation with the NOAA Fisheries Service will be required. To facilitate NOAA Fisheries Service consultation, a Biological Assessment will be prepared prior to the preparation of the Final EIR/EA. Consultation with the USFWS or the NOAA Fisheries Service has not yet been initiated.
USACE	Section 404 Permit, Clean Water Act	The JD was submitted to the USACE for verification on June 4, 2014. Following approval of the JD, a Nationwide Permit pursuant to Section 404 of the CWA will be obtained for the proposed project concurrent with a Lake or Streambed Alteration Agreement and a Water Quality Certification.
CDFW	Section 1602 Lake or Streambed Alteration Agreement	The JD has been submitted to the USACE for verification. Following approval of the JD, a Lake or Streambed Alteration Agreement pursuant to Section 1602 of the California Department of Fish and Game Code will be obtained for the proposed project concurrent with a Nationwide Permit and a Water Quality Certification.
RWQCB	Section 401 Water Quality Certification	The JD has been submitted to the USACE for verification. Following approval of the JD, a Water Quality Certification pursuant to Section 401 of the CWA will be obtained for the proposed project concurrent with a Nationwide Permit and a Lake or Streambed Alteration Agreement.
SWRCB	General Construction Storm Water Permit	Obtain before the start of construction
	Phase II Municipal General Permit Order No. 2013-0001-DWQ) (NPDES Permit No. CAS000004)	Obtain before the start of construction
	Waste Discharge Requirements for the City of Salinas Municipal Storm Water Discharges (Order No. R3-2012-0005) (NPDES Permit No. CA0049981)	Obtain before the start of construction.

CDFW = California Department of Fish and Wildlife
CWA = Clean Water Act
JD = Jurisdictional Delineation
NOAA Fisheries Service = National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NPDES = National Pollutant Discharge Elimination System
RWQCB = Regional Water Quality Control Board
SWRCB = State Water Resources Control Board
USACE = United States Army Corps of Engineers
USFWS = United States Fish and Wildlife Service

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Chapter 1 Proposed Project

1.1 Introduction

For the Davis Road Bridge Replacement and Road Widening Project, the California Department of Transportation (Caltrans) is the lead agency under the National Environmental Policy Act (NEPA). The County of Monterey is the lead agency under the California Environmental Quality Act (CEQA).

The County of Monterey (County) Public Works Department is proposing to replace the existing two-lane, low-level bridge (Bridge No. 44C-0068) over the Salinas River with a longer bridge that meets current American Association of State Highway and Transportation Officials (AASHTO) requirements. The existing Davis Road Bridge is located approximately 2 miles (mi) south of the City of Salinas (City). The existing bridge is typically closed from January to April due to high water levels in the Salinas River. The Preferred Project Alternative would demolish the existing bridge and replace it with a new four-lane, high-level bridge capable of withstanding a 100-year flood. The replacement bridge would be open for year-round use. The County is also proposing to widen Davis Road between Reservation Road and Blanco Road, from two lanes to four lanes for a distance of approximately 2.1 mi between Blanco Road on the north and Reservation Road on the south. The proposed project vicinity and proposed project area are shown on Figures 1-1 and 1-2, respectively.

The proposed project is included as Project No. MYC022M in the Association of Monterey Bay Area Governments (AMBAG) Metropolitan Transportation Improvement Program (MTIP): Federal Fiscal Year (FFY) 2014–2016 to 2017–2018 (adopted on September 10, 2014) and in the AMBAG Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (adopted on June 11, 2014). The proposed project is also consistent with the Transportation Agency for Monterey County (TAMC) 2014 Regional Transportation Plan (RTP) and 2014 State Transportation Improvement Program (STIP), which was adopted by the California Transportation Commission (CTC). Funding for the bridge portion of the project will come from the federal Highway Bridge Program (HBP) and the STIP funds allocated by TAMC. Funds for widening the roadway beyond the limits of the bridge portion of the proposed project, should that alternative be adopted, will come from the Fort Ord Reuse Authority (FORA).

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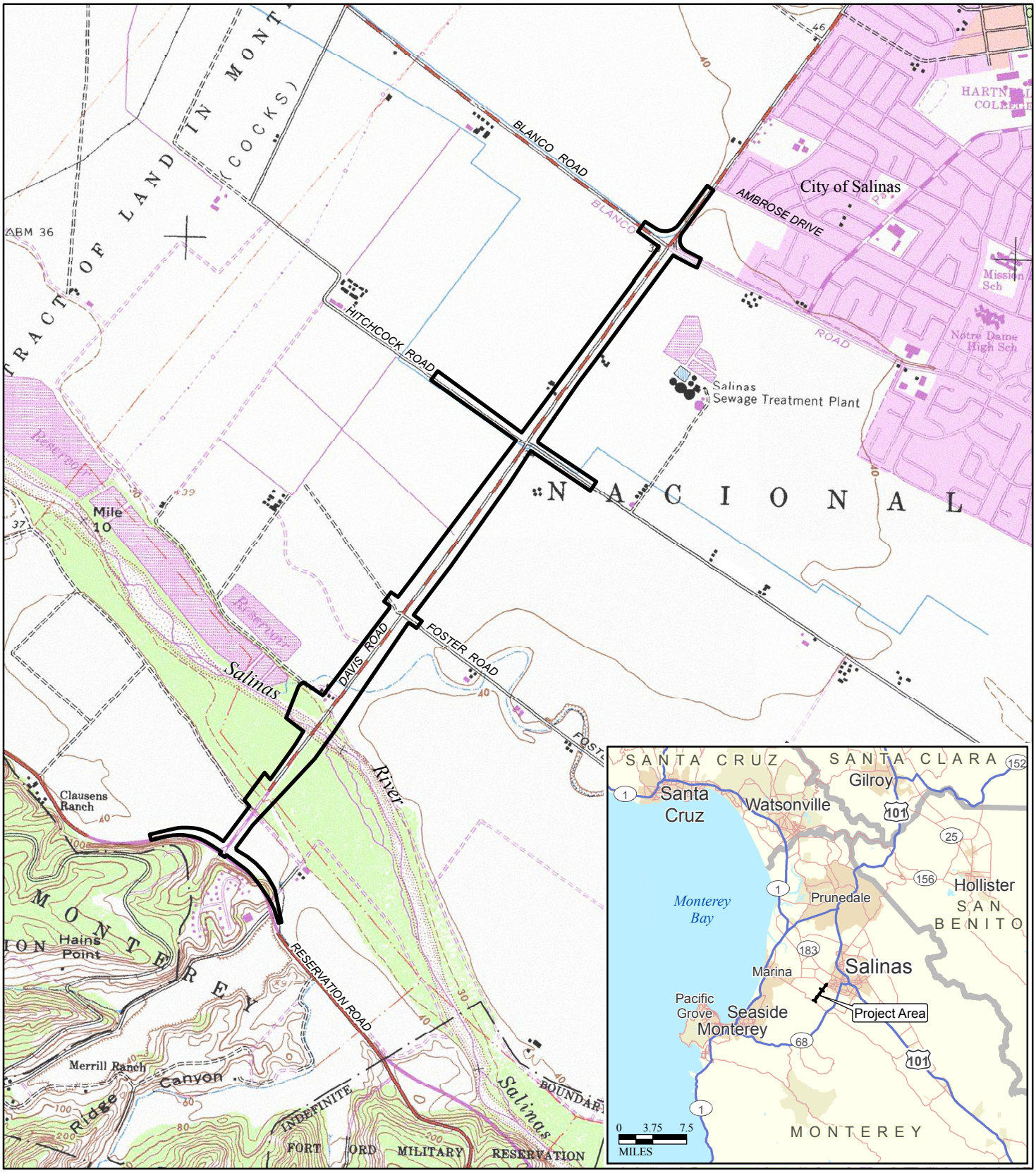

LEGEND

Project Area

FIGURE 1-1

0 1000 2000
FEET

SOURCE: USGS 7.5-minute Topo Quad - *Salinas, Calif.* (1984).

Davis Road Bridge Replacement
and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Project Location/Vicinity Map

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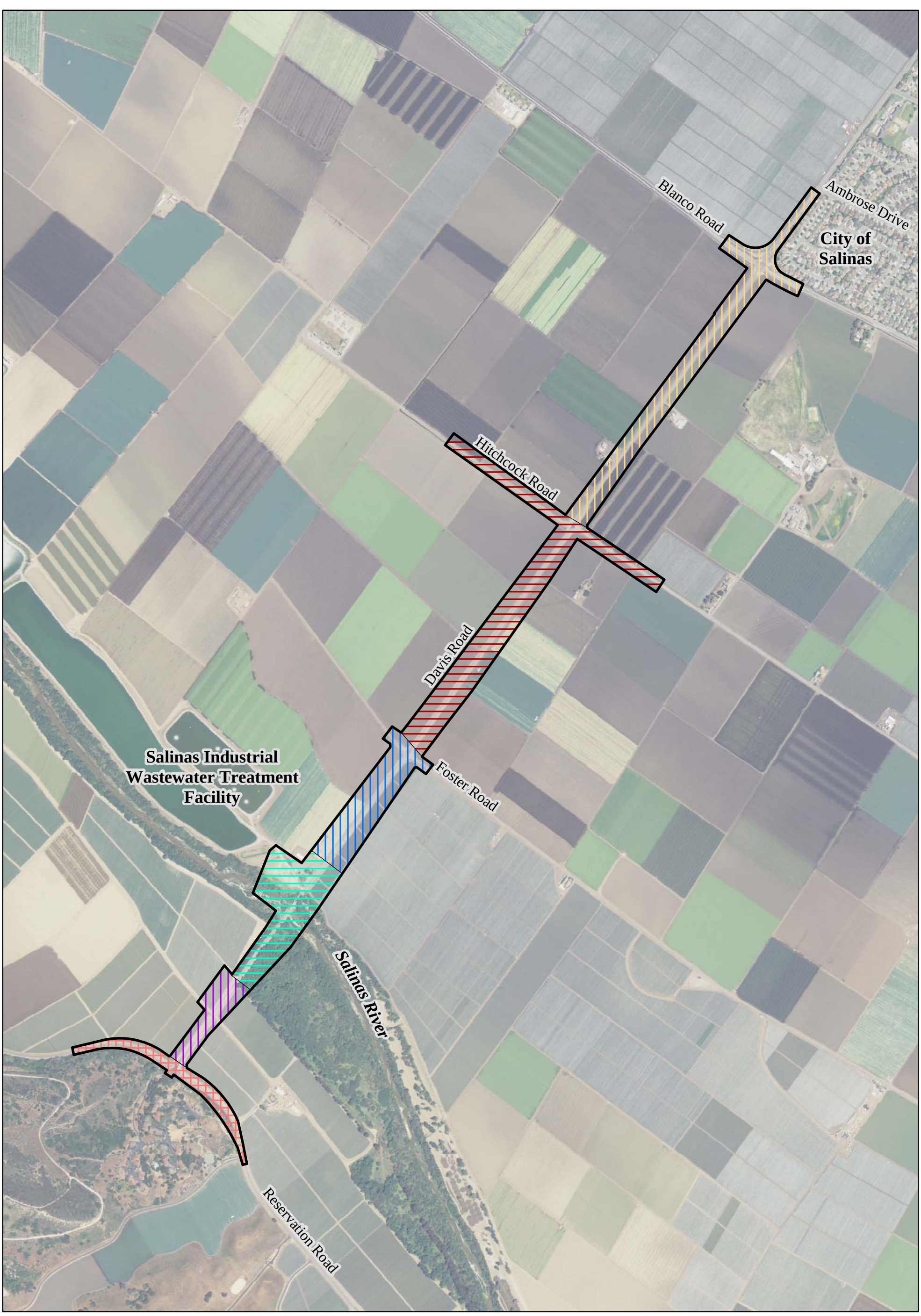

LEGEND

Project Area

Project Segment

Segment 1
Segment 2
Segment 3
Segment 4
Segment 5
Segment 6

N

0 500 1000
FEET

Source: USDA NAIP Imagery (05/2012).

FIGURE 1-2

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Project Area

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1.2 Purpose and Need

1.2.1 Purpose of the Project

The primary purpose of the proposed project is to provide an arterial roadway crossing over the Salinas River that:

- Meets current structural and geometric design standards;
- Provides an all-weather crossing that can accommodate seasonal high flows of the river;
- Accommodates projected travel demand for the 2040 planning horizon at an acceptable level of service (LOS); and
- Improves traffic safety.

1.2.2 Need for the Project

In wet years, Davis Road is reliably passable only during the months of May through December because flood waters inundate the existing bridge over the Salinas River outside of this period. The existing structure does not meet hydraulic design criteria per Chapter 11 of the Caltrans Local Assistance Procedures Manual because it does not have sufficient waterway opening or freeboard. In addition, the County has identified Davis Road as a critical link in the countywide transportation system, which is needed to handle future increases in traffic between Salinas and Monterey as a result of regional population and employment growth. The existing capacity of Davis Road is insufficient to accommodate the projected high traffic demands through the 2040 planning horizon. Furthermore, the accident rate along the Davis Road corridor is greater than the statewide average. Additionally, the bridge and roadway do not have adequate shoulder widths, clear recovery zones, and Highway Design Manual and AASHTO GREEN Book, recommended stopping sight distances at various locations. Therefore, the structural and geometric design of the bridge and roadway must be updated.

Bridge Design Deficiencies

The existing Davis Road bridge structure has historically been overtopped every 3 to 5 years because it is a low water crossing and does not provide adequate clearance over the Salinas River. Along with overtopping, significant debris accumulates on the bridge, resulting in maintenance problems that require extensive cleanup efforts by the County Department of Public Works (Road and Bridge Maintenance) before the roadway can be reopened to traffic.

Capacity, Transportation Demand, and Safety

A Traffic Impact Study has been prepared for the proposed project (*Traffic Impact Study* [2014]). The *Traffic Impact Study* addressed traffic operations for the project study corridor as a whole (Reservation Road to Blanco Road) as well as all intersections within the study corridor: Davis Road/Reservation Road, Davis Road/Salinas Industrial Wastewater Treatment Facility (SIWTF) driveway, Davis Road/Foster Road, Davis Road/Hitchcock Road, and Davis Road/Blanco Road.

Existing Conditions

The existing average daily traffic (ADT) along Davis Road between Reservation Road and Blanco Road is 9,010 vehicles.

Currently the roadway segments between Reservation Road and Blanco Road operate at LOS D during both the a.m. and p.m. peak periods. LOS D is considered to be within the acceptable range. The Davis Road intersections currently operate at acceptable levels (LOS A through LOS D) as shown in Table 1.1.

Table 1.1 Existing Intersection Level of Service

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Davis Road/Blanco Road	Signal	35.5	D	40.8	D
Davis Road/Hitchcock Road	TWS	18.1	C	26.6	D
Davis Road/Foster Road	OWS	14.6	B	18.6	C
Davis Road/SIWTF Driveway	OWS	12.7	B	13.6	B
Davis Road/Reservation Road	Signal	17.6	B	26.2	C

Source: *Traffic Impact Study* (2014).
LOS = level of service
OWS = One-Way Stop
sec = seconds
SIWTF = Salinas Industrial Wastewater Treatment Facility
TWS = Two-Way Stop

Future (2040) Conditions

The current transportation-demand forecasting model was developed by AMBAG to analyze proposed land uses, circulation systems, and air quality. The model covers a three-county area (i.e., Monterey County, San Benito County, and Santa Cruz County).

The Salinas area and greater regional area (i.e., Monterey, Marina, and Seaside) are expected to continue to develop. Traffic volumes on some of the proposed project roadway segments and intersections are projected to more than double by 2040.

The proposed project is included in both the County's and City's General Plans, and more specifically: (1) the City of Salinas Land Use and Circulation Policy Map, (2) the Monterey County Greater Salinas Area Plan (SAP), and (3) the Monterey County Circulation Plan. In the Monterey County Circulation Plan (2010), Davis Road is classified as a Major Road, which, according to the County of Monterey's Roadway Design Standards (County of Monterey, 1977), is defined as a four-lane street with parking lanes and sidewalks within a minimum 84-foot (ft) wide right of way (ROW) and a minimum surfaced roadbed width of 64 ft. Accordingly, the current traffic model identifies Davis Road as a four-lane facility. Future traffic on Davis Road is forecasted in part to include vehicular trips redistributed from State Route 68 (SR-68) due to congestion on SR-68. The forecasted ADT along Davis Road is 32,121 vehicles in 2040.

The results of the roadway segment analysis conducted for 2040 indicate that operational conditions on Davis Road (Reservation Road to Blanco Road) without the proposed project would be unacceptable (i.e., LOS F during the a.m. and LOS E during the p.m. peak hours).

Table 1.2 shows the results of the intersection analyses for the Future without Project Condition are presented for 2040.

Table 1.2 Future (2040) Intersection LOS

Intersection	Future without Project Condition			
	AM Peak Hour		PM Peak Hour	
	LOS	Delay[1] (sec)	LOS	Delay[1] (sec)
Davis Road/Blanco Road	F	254.2	F	113.3
Davis Road/Hitchcock Road	F	[2]	F	[2]
Davis Road/Foster Road	F	[2]	F	[2]
Davis Road/SIWTF Driveway	F	715.4	F	120.5
Davis Road/Reservation Road	F	575.5	F	222.1

Source: *Traffic Impact Study* (2014).
[1] Average delay per vehicle
[2] Delay exceeds calculable range
LOS = level of service
sec = seconds
SIWTF = Salinas Industrial Wastewater Treatment Facility

As shown in Table 1.2, the results of the analyses indicate that for the Future without Project Condition, the study intersections would operate at unacceptable LOS F for both the a.m. and p.m. peak hours.

Traffic Safety

Traffic accident data and a summary of collision types for Davis Road for the period from January 2008 through December 2011 are provided in Tables 1.3 and 1.4, respectively. The accidents reported typically include property damage and injury; no fatalities occurred within the Project limits during the period reviewed.

Table 1.3 Summary of Accidents (2008–2011)

Location	Number of Accidents
Davis Road/Blanco Road	82
Davis Road/Hitchcock Road	12
Davis Road/Foster Road	1
Davis Road/Reservation Road	30
Davis Road/Reservation Road to Blanco Road	61

Source: *Traffic Impact Study* (2014).

Table 1.4 Summary of Collision Types (2008–2011)

Primary Collision Factor	Type of Collision					
	Sideswipe	Rear End	Hit Object	Overturn	Broadside	Head On
Improper Turn	2	0	1	1	1	0
Speeding	0	27	1	0	0	0
Other Violation	2	19	1	1	4	1
TOTAL	**4**	**46**	**3**	**2**	**5**	**1**

Source: *Traffic Impact Study* (2014).

The approximate accident rate on Davis Road was calculated as 3.41 accidents per million vehicle miles traveled (VMT). Based on information available on the Statewide Integrated Traffic Records System (SWITRS) website (www.chp.ca.gov/switrs/), the statewide average in 2010 was 1.27 accidents per million VMT. Therefore, the accident rate along the Davis Road corridor is greater than the statewide average. The projected accident rate without the project is assumed to be equivalent to the calculated accident rate of 3.41 accidents per million VMT.

The proposed roadway geometrics will result in improved sight distances, greater clear recovery zones, and additional roadway capacity. In particular, queuing lanes will be provided at all intersections, which will allow through traffic to continue unimpeded by vehicles waiting to make turning movements. Furthermore, the proposed bridge replacement will allow the roadway to remain open during large storm events.

1.2.2.1 Economic Development

Additional roadway capacity on Davis Road is needed to support planned land uses in the region and to accommodate the forecasted traffic volumes for those uses. The proposed project is within the boundaries of the Greater SAP, which is part of the 2010 Monterey County General Plan. The Monterey County Circulation Plan identifies Davis Road as a Major Road with four travel lanes.

1.2.2.2 Modal Interrelationships and System Linkages

Davis Road provides both local access to the agricultural areas south of Salinas and serves as interregional linkage between Salinas and cities to the south and west such as Monterey, Seaside, and Marina.

Davis Road is also under consideration as a potential segment of the proposed Marina-Salinas Multimodal Corridor project. The 1997 Fort Ord Base Reuse Plan identified a multi-use corridor to connect the cities of Marina and Salinas. Multiple alignments have been proposed since then. In 2010, all land-governing jurisdictions along the corridor signed a Memorandum of Agreement (MOA) that shifted the corridor to Inter-Garrison Road/Reservation Road/Davis Road. Since the MOA was signed, several stakeholders have requested that the alignment be reevaluated. TAMC is currently overseeing the preparation of a comprehensive transportation/land use plan for the corridor. The corridor project will include transit, bicycle, pedestrian, and auto uses to improve access to planned development and activity centers within the study area. The corridor study will focus on expanding existing roadways and identifying new opportunities for transit facilities. The County and TAMC will coordinate the planning efforts between the proposed Davis Road Bridge Replacement and Road Widening project and the Marina-Salinas Multimodal Corridor project.

1.2.2.3 Air Quality Improvements

Davis Road has two travel lanes (one in each direction) and no striped (Class II) bicycle lanes. Provision of Class II striped bicycle lanes will be included with the proposed project, which would provide opportunities to reduce emissions resulting from the use of non-vehicular modes of travel.

Currently, there are no plans for high-occupancy vehicle (HOV) lanes or transit-only lanes on Davis Road. The road widening and reconstructed bridge will facilitate bus service along Davis Road.

1.2.2.4 Independent Utility and Logical Termini

The project meets the Federal Highway Administration (FHWA) logical termini criteria for a highway project. Logical termini are defined as rational endpoints for transportation improvements. These rational endpoints facilitate a thorough review of the environmental impacts of the proposed project. The project limits extend from Blanco Road at the northern end of the project to Reservation Road on the southern end of the project. These termini are logical because they are the existing limits of Davis Road, and they are not proposed to be modified. As such, the project limits also maintain the requirements for independent utility of a functioning roadway project because Davis Road is already connected to Reservation Road and Blanco Road. The project also has independent utility in that it does not preclude the consideration of other transportation improvements in the area such as the proposed Marina-Salinas Multimodal Corridor project.

1.3 Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project while avoiding or minimizing environmental impacts. There are three Alternatives being considered: a No-Build Alternative and two Build Alternatives.

The Monterey County Public Works Department is proposing to replace the existing 42.5 ft long, 34 ft wide, two-lane, low-level bridge (Bridge No. 44C-0068) over the Salinas River with a longer bridge that meets current AASHTO requirements. The existing Davis Road Bridge is located approximately 2 mi south of the City of Salinas. The existing bridge is typically closed from January to April due to high water levels in the Salinas River. The Preferred Project Alternative would demolish the existing bridge and replace it with a new four-lane, high-level bridge capable of withstanding a 100-year flood. The replacement bridge would be open for year-round use. The County is also proposing to widen Davis Road from two lanes to four lanes for a distance of approximately 2.1 mi between Blanco Road on the north and Reservation Road on the south.

The project vicinity and area are shown on Figures 1-1 and 1-2.

1.4 Alternatives

This section describes the proposed project alternatives: the No Build Alternative and the two Build Alternatives (the Preferred Alternative and Alternative 2). The criteria

for alternative selection included engineering and design, environmental protection, and cost. The Preferred Alternative and Alternative 2 were developed to minimize cost and environmental impacts.

1.4.1 No Build Alternative

Under the No Build Alternative, no improvements would be made to Davis Road or the Davis Road Bridge other than routine roadway and bridge maintenance (e.g., roadway cleaning, pothole repair, inspections, and bridge clearing after a flood event). The No Build Alternative is a baseline by which to measure and compare the proposed Build Alternatives.

The No Build Alternative would cost nothing at this time, but would have other impacts. The existing LOS along Davis Road between Blanco Road and Reservation Road would degrade to LOS F by 2040 for the a.m. peak hour and LOS E for the p.m. peak hour. Traffic delays would increase at the intersections within the study area. In addition, the high water levels within the Salinas River would continue to close the Davis Road Bridge from January through April, resulting in both inconvenience and increased cost to the motoring public.

1.4.2 Build Alternatives

The Preferred Alternative is a four-lane 1,700 ft long bridge and four-lane roadway and includes a design variation which is discussed further in Section 1.4.2.2, Unique Features of the Build Alternatives. Alterative 2 is a two-lane, 1,700 ft long bridge and two-lane road alternative. Both Build Alternatives and the No Build Alternative are described below.

1.4.2.1 Common Design Features of the Build Alternatives

The following design features are the same for both the Preferred Alternative and Alternative 2:

- **Davis Road Bridge:** For both Build Alternatives, the existing Davis Road Bridge would be replaced by a longer, 1,700 ft bridge with an 8 ft shoulder and a concrete barrier (Type 732) on each side. However, the width of the bridge would vary depending on which Build Alternative is implemented, as discussed in Section 1.4.2.2, Unique Features of the Build Alternatives. A tubular bicycle railing would be attached to the concrete barrier. The new bridge would consist of 14 spans, and each pier would consist of three columns with each column supported on a single large-diameter pile. The bridge type would be a cast-in-place, prestressed, concrete box girder.

- **Proposed Drainage System:**
  - Foster Road to North Bridge Approach. In order to accommodate roadside drainage along Davis Road, asphalt concrete dikes are proposed on each side of Davis Road, from Foster Road to the north side bridge approach. To accommodate storm water runoff, a retention pond, a storm drain pipe, and two drainage inlets would be installed. The retention pond would be located between the proposed frontage road (see discussion of the proposed frontage road under the discussion of the Salinas Industrial Wastewater Treatment Facility Driveway below) and the proposed west side edge of pavement on Davis Road. Since the roadway profile slopes toward the Davis Road/Foster Road intersection, the two drainage inlets would be installed on the south side of the intersection.
  - South Bridge Approach to Reservation Road. In order to accommodate roadside drainage south of the south bridge abutment, asphalt overside drains at the end of asphalt concrete dikes are proposed on each side of Davis Road, from the south bridge abutment to within 500 ft of the south bridge approach.
- **Utility Pole Relocations[1]:**
  - Two high-voltage wooden poles at the Davis Road/Foster Road intersection, on the west side of Davis Road and south of Foster Road, would be relocated outside the proposed roadway edge of pavement within the 3 ft shoulder area.
  - One high-voltage electrical wooden power pole located on the west side of Davis Road, north of the north abutment, would be relocated and/or elevated due to overhead clearance issues.
  - Two wooden poles near the beginning of the bridge (north abutment) along the west side of Davis Road would be moved farther to the west and outside the proposed roadway improvements.

[1] Although it is PG&E's preference to replace existing wood poles in kind, the material used for the replacement poles cannot be determined until PG&E's electric estimator (design group) has had the opportunity to complete a design study. It is possible that some of the existing wood utility poles may need to be replaced with tubular steel poles (TSPs). The type of replacement pole, the distance of the utility poles from the travel way, and whether the utility poles are located on private property (under PG&E easements) or within the existing County ROW will be identified in the design study prepared by PG&E's electric estimator during the final design phase of the proposed project.

- In addition, seven joint wooden utility poles located by the bridge would be relocated outside the proposed roadway improvements.

- **Salinas Industrial Wastewater Treatment Facility Driveway:** On the west side of the roadway, the existing SIWTF driveway would be impacted by the proposed bridge. The existing SIWTF driveway would be closed and access would be relocated either to Foster Road via a frontage road or to an alternate driveway to Davis Road. The frontage road option would be located on the west side of Davis Road and would access Foster Road, west of the Davis Road/Foster Road intersection.
- **Regraded Farm Access Roads:** The 10 ft wide, graded farm access road adjacent to the east side of Davis Road, between Foster Road and the north bridge approach, would be regraded outside the fill slopes.
- **Streetlights:** The design of the Build Alternative includes the addition of streetlights along the new bridge and at intersections along Davis Road.
- **Bikeways:** The Build Alternatives include an 8 ft shoulder on both sides of Davis Road that will serve as Class II bike lanes.
- **Speed Limit:** The speed limit would be 55 miles per hour (mph) on Davis Road.

1.4.2.2 Unique Features of the Build Alternatives

The Preferred Alternative and Alternative 2 would include the above design features; however, the Preferred Alternative would replace the existing Davis Road Bridge with a 74 ft 10-inch wide bridge and widen Davis Road from two lanes to four lanes. Alternative 2 would replace the existing Davis Road Bridge with a 40 ft 10-inch wide bridge and keep Davis Road as a two-lane road. The two Build Alternatives are summarized below.

1.4.2.3 Preferred Alternative[1]

The Preferred Alternative would widen Davis Road from two lanes to four lanes from Blanco Road to Reservation Road, which is approximately 11,164 ft (2.1 mi). The Preferred Alternative would include two 12 ft lanes in each direction, a 12 ft striped median, and an 8 ft shoulder on each side of Davis Road that will be striped to serve as Class II bike lanes. The speed limit would remain 55 mph. Refer to Figure 1-3 for a typical cross section of the Preferred Alternative.

[1] The County has preliminarily identified the Preferred Alternative as their preferred alternative, subject to public review. Final identification of a preferred alternative will occur after the public review and comment period.

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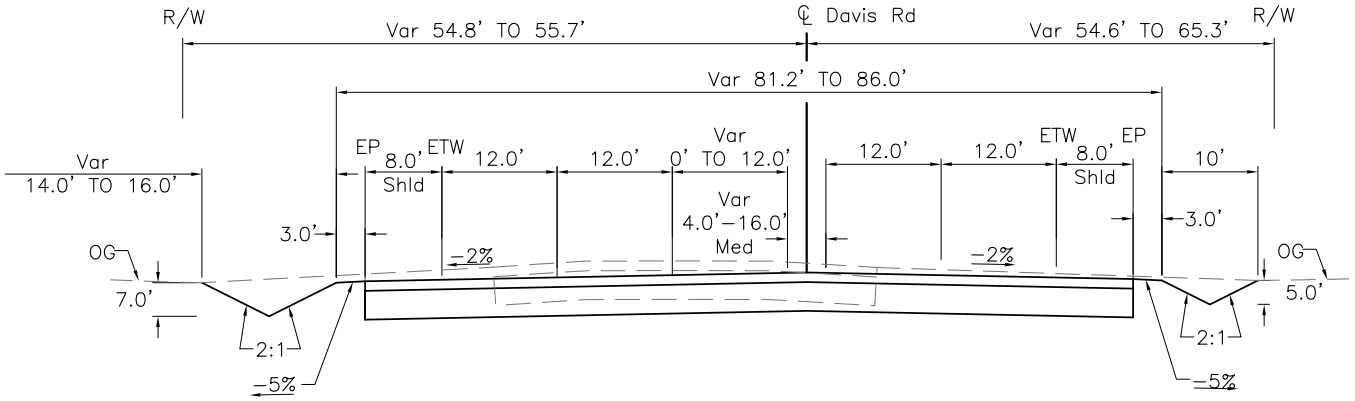
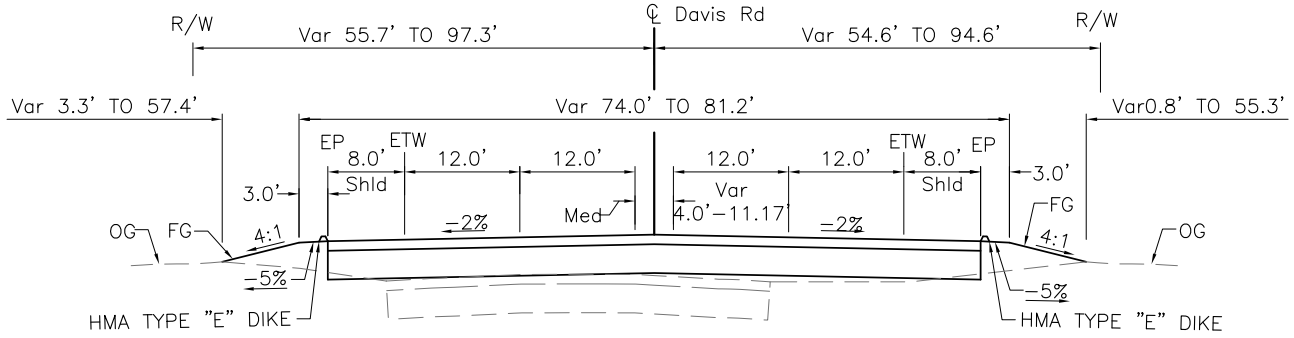


"D" LINE
DAVIS ROAD
STA 174+50 TO TO 180+50.00



"D" LINE
DAVIS ROAD
STA 170+00.00 (EB) TO 174+50.00

FIGURE 1-3

0 10 20
FEET

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Preferred Alternative: Typical Cross-section

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Preferred Alternative – Design Variation

The Preferred Alternative includes a design variation that would replace the north and southbound Class II bike lanes with a separate two-way cycle track (Class IV bikeway[1]) along the east side of Davis Road from Blanco Road to Reservation Road. The speed limit would remain 55 mph on Davis Road under the Preferred Alternative – Design Variation. The Preferred Alternative – Design Variation would require changes to the roadway and bridge cross sections for the Preferred Alternative but would not change the impact limits (i.e., footprint) of the roadway widening or bridge as currently proposed under the Preferred Alternative.

The Preferred Alternative – Design Variation for northbound traffic would include a 3 ft median, two 11 ft mixed-flow northbound travel lanes, an 8 ft paved shoulder with a 6-inch rumble strip, a 3 ft striped buffer that would contain flexible delineators, an 8 ft two-way cycle track, and a 3 ft unpaved shoulder between the eastern edge of the cycle track and the storm water feature. Flexible delineators would provide visual separation between the northbound shoulder and the two-way cycle track. The delineators would be flexible, 3 ft tall, plastic tubular posts placed at a spacing of approximately 20 ft. The delineators would be white in color with reflective elements. The design variation for southbound traffic would include one 11 ft mixed-flow inside travel lane and one 12 ft mixed-flow outside travel lane, a 5 ft paved shoulder, and a 3 ft unpaved shoulder. Refer to Figure 1-4 for a typical cross section of the roadway portion of the Preferred Alternative – Design Variation.

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[1] The primary differences between a Class IV bikeway or "cycle track" and a Class I bikeway involves allowed uses, separation from the roadway, and barrier requirements. A Class IV bikeway is designated exclusively for bicycle travel. In contrast, a Class I bikeway is designated for pedestrians as well as bicyclists. A Class IV bikeway requires a 5 ft separation from the travel lane. Where the separation is less than 5 ft, a physical barrier must be provided between the path and the roadway, but the barrier does not need to be continuous. For example, flexible posts or rumble strips could be used as physical barriers. A Class I bikeway requires a minimum of 5 ft between the path and the shoulder, and a standard width shoulder between the path and the travel lane. If the separation is less than 10 ft from the edge of the shoulder, a continuous physical barrier must be included.

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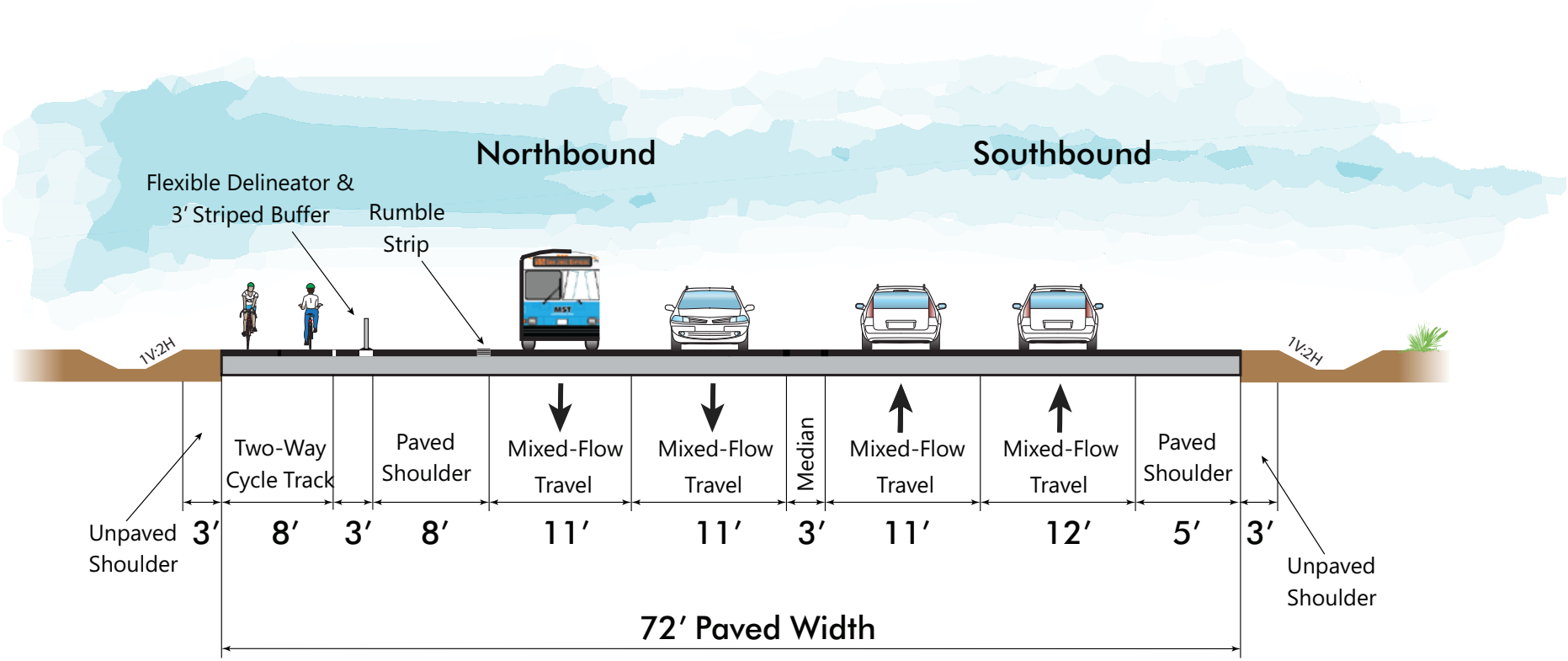

FIGURE 1-4

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Preferred Alternative-Design Variation: Typical Roadway Cross-section

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Davis Road Bridge

The Preferred Alternative would replace the existing bridge with a four-lane, 74 ft 10-inch wide bridge that would include two 12 ft lanes in each direction, an 8 ft striped median, and an 8 ft shoulder in each direction that will be striped to serve as Class II bike lanes. Refer to Figure 1-5 for the general plan of the proposed four-lane bridge.

Preferred Alternative – Design Variation

As stated above, the Preferred Alternative – Design Variation would include a two-way cycle track along the east side of Davis Road from Blanco Road to Reservation Road, including the new Davis Road Bridge over the Salinas River.

The Preferred Alternative – Design Variation for northbound traffic would include a 3 ft median, two 11 ft mixed-flow northbound travel lanes, a 6 ft paved shoulder with a 6-inch rumble strip, a 3 ft striped buffer that would contain flexible delineators, an 8 ft two-way cycle track, and a 2 ft paved shoulder between the two-way cycle track and the bridge railing. The delineators placed within the striped buffer would be flexible, 3 ft tall, plastic tubular posts placed at a spacing of approximately 20 ft.

The delineators would be white in color with reflective elements. The Preferred Alternative – Design Variation for southbound traffic would include one 11 ft mixed-flow inside travel lane and one 12 ft mixed-flow outside travel lane, and a 5 ft paved shoulder. Refer to Figure 1-6 for a typical cross section of the bridge portion of the Preferred Alternative – Design Variation.

Proposed Drainage System

Blanco Road to Hitchcock Road

In order to accommodate roadside drainage from Blanco Road to Hitchcock Road, storm water runoff would be captured by two new overside drains that would be installed on each side of Davis Road, south of the Davis Road/Blanco Road intersection, and would flow through reinforced concrete pipe (RCP) to the City of Salinas' storm water system. Between Blanco Road and Hitchcock Road, the proposed drainage system would include infiltration ditches with check dams on each side of Davis Road, beginning at Blanco Road and ending at Hitchcock Road. On the east side of Davis Road, the infiltration ditch is required to have media filters that would begin at Blanco Road and end 240 ft south of the Davis Road/Blanco Road intersection.

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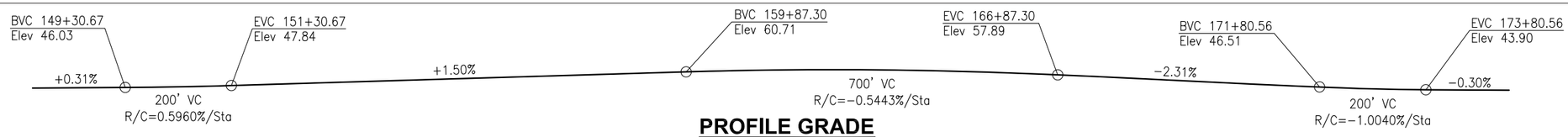
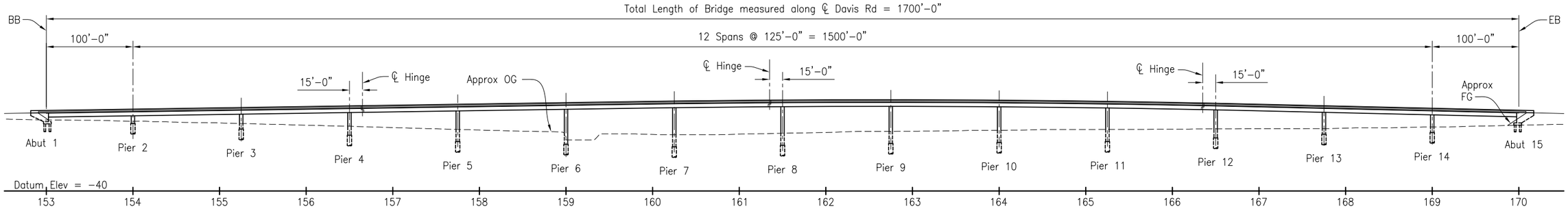


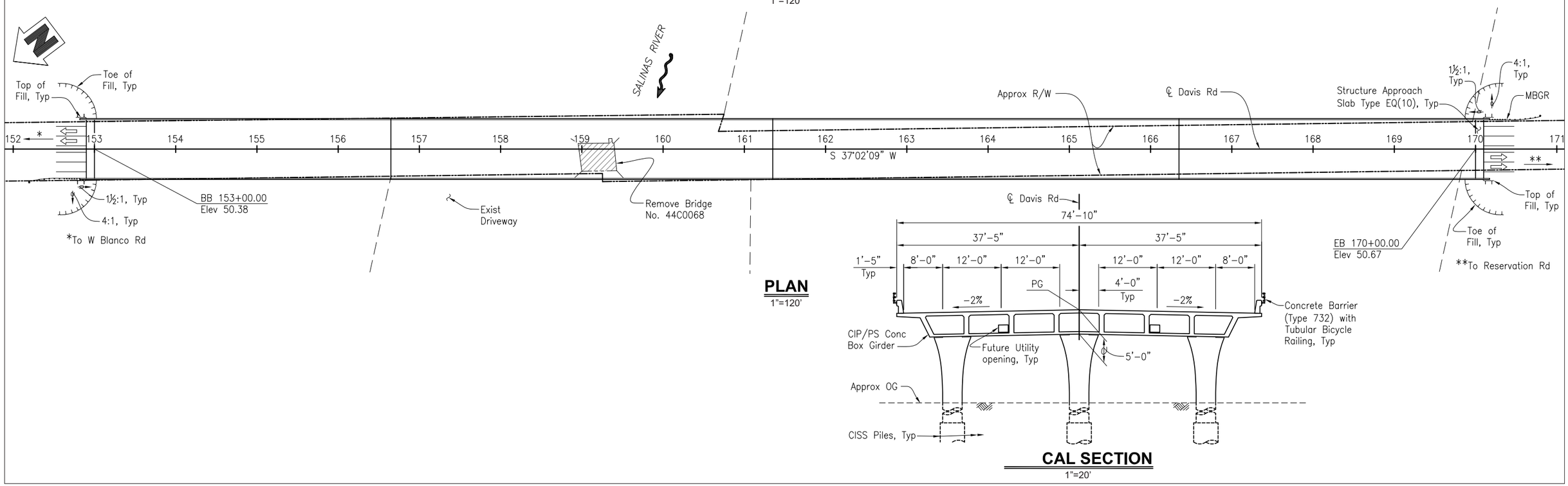
PROFILE GRADE

NO Scale



ELEVATION

1"=120'



PLAN

1"=120'

CAL SECTION

1"=20'

FIGURE 1-5

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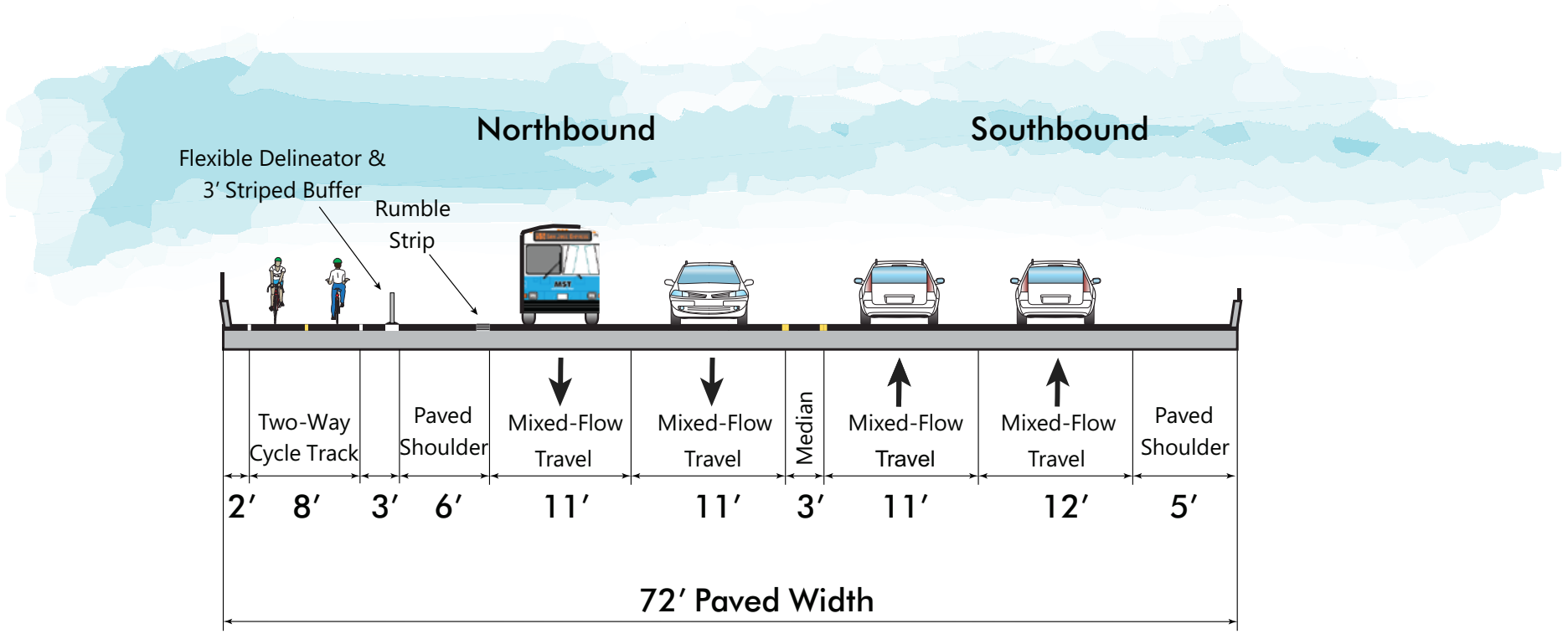

FIGURE 1-6

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Preferred Alternative-Design Variation: Typical Bridge Cross-section

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Hitchcock Road to Foster Road

In order to accommodate drainage from Hitchcock Road to Foster Road, the existing drainage culvert at the Davis Road/Hitchcock Road intersection would be extended, and infiltration ditches with check dams would be installed on each side of Davis Road. The drainage system would include four drainage inlets along Hitchcock Road (both east and west of Davis Road) and storm drainpipes that connect to the existing irrigation channel.

South Bridge Approach to Reservation Road

In order to accommodate roadside drainage south of the south bridge abutment, two infiltration ditches are proposed on each side of Davis Road, beginning 500 ft south of the bridge abutment to Reservation Road. In order to accommodate runoff from the east side of the Davis Road/Reservation Road intersection, an asphalt concrete dike and three drainage inlets along Reservation Road would be installed. On the west side of the Davis Road/Reservation Road intersection, storm water runoff would drain into an existing ditch.

Utility Pole Relocations

Blanco Road to Hitchcock Road

Four existing high-voltage wooden electrical power poles on the west side of Davis Road, near the Davis Road/Blanco Road intersection, would be relocated outside the proposed roadway improvements. In addition, five joint wooden utility poles that are currently located on the east side of Davis Road would be relocated outside the proposed roadway improvements. As described above in Section 1.4.2.1, Common Design Features of the Build Alternatives, the final design details (i.e., type of replacement pole and distance of the poles from the travel way) will be identified in the design study prepared by PG&E's electric estimator during the final design phase of the proposed project.

Hitchcock Road to Foster Road

Six existing joint wooden utility poles along Hitchcock Road would be relocated due to the widening of the Davis Road/Hitchcock Road intersection. In addition, four wooden power poles that are currently located on the east side of Davis Road would be relocated outside the proposed roadway edge of pavement and within the 3 ft shoulder area.

Foster Road to the North Bridge Approach

One existing high voltage wooden electrical power pole along Foster Road and one existing joint wooden utility pole on the east side of Davis Road near the Davis Road/Foster Road intersection would be relocated outside the proposed roadway improvements.

South Bridge Approach to Reservation Road

Five existing wooden utility poles along the east side of Davis Road would be relocated outside the proposed roadway edge of pavement and within the 3 ft shoulder area. Underground electric distribution line at the Davis Road/Reservation Road intersection would be relocated within the intersection to tie in with the associated utility pole relocation

Driveway Improvements

There are two residential properties south of the Davis Road/Blanco Road intersection on each side of Davis Road. Driveway improvements would be required for all properties that have an existing access to Davis Road. Typical driveway improvements include conforming driveway grades from the proposed profile on Davis Road to match existing grades on the property side and providing drainage improvements across the driveways.

Regraded Farm Access Roads

The existing 10 ft wide graded farm access roads located adjacent to the east side of Davis Road, between Blanco Road and Foster Road, would be regraded outside the proposed limits of the roadside ditches. The existing 10 ft wide graded farm access road located adjacent to the north side of Reservation Road would be regraded outside the limits of the new fill slopes within the project limits.

Intersection Improvements

Davis Road/Blanco Road Intersection

Since the Davis Road/Blanco Road intersection would be widened to accommodate additional lanes, the existing traffic signal would by modified, and new traffic signal poles and electrical facilities would be required on all four corners of the intersection.

Davis Road/Hitchcock Road Intersection

The Davis Road/Hitchcock Road intersection would be widened to accommodate additional turn lanes and would become a signalized intersection. New traffic signal poles and electrical facilities would be required on all four corners of the intersection.

In addition, the existing alignment of the intersection would be modified to a 90-degree angle.

Davis Road/Foster Road Intersection

The Davis Road/Foster Road intersection would be widened to accommodate the additional turn lanes proposed on Davis Road.

Davis Road/Reservation Road Intersection

The Davis Road/Reservation Road intersection would be widened to accommodate additional turn lanes. New traffic signal poles and electrical facilities would be required on all four corners of the intersection.

Fencing

Approximately 356 ft of existing fencing along the east side of Davis Road (between Reservation Road and a farm access road) would be removed and replaced in kind with 635 ft of fencing that spans the entire length of road between the Davis Road/ Reservation Road intersection and the farm access road.

Tree Removal

The Preferred Alternative would require the removal of 44 trees along the Salinas River corridor: 39 native riparian trees (i.e., 3 black cottonwoods, 34 red willows, and 2 box elders) and 5 nonnative trees (i.e., 4 blue gums and 1 Chinese elm).

Property Acquisition

The Preferred Alternative would acquire approximately 18.15 acres (ac) of land from public and private property owners (refer to Table 1.5).A majority of the property acquisition would be due to the road widening (refer to Figure 1-7).

1.4.2.4 Alternative 2

Davis Road would remain a two-lane road under Alternative 2. Improvements would only occur between Foster Road and Reservation Road. Refer to Figure 1-8 for a typical cross-section of Alternative 2.

Davis Road Bridge

Alternative 2 would replace the existing bridge with a two-lane, 40 ft 10-inch wide bridge that would include two 12 ft travel lanes and an 8 ft shoulder that will be striped to also serve as Class II bike lanes. Refer to Figure 1-9 for the general plan of the two-lane bridge.

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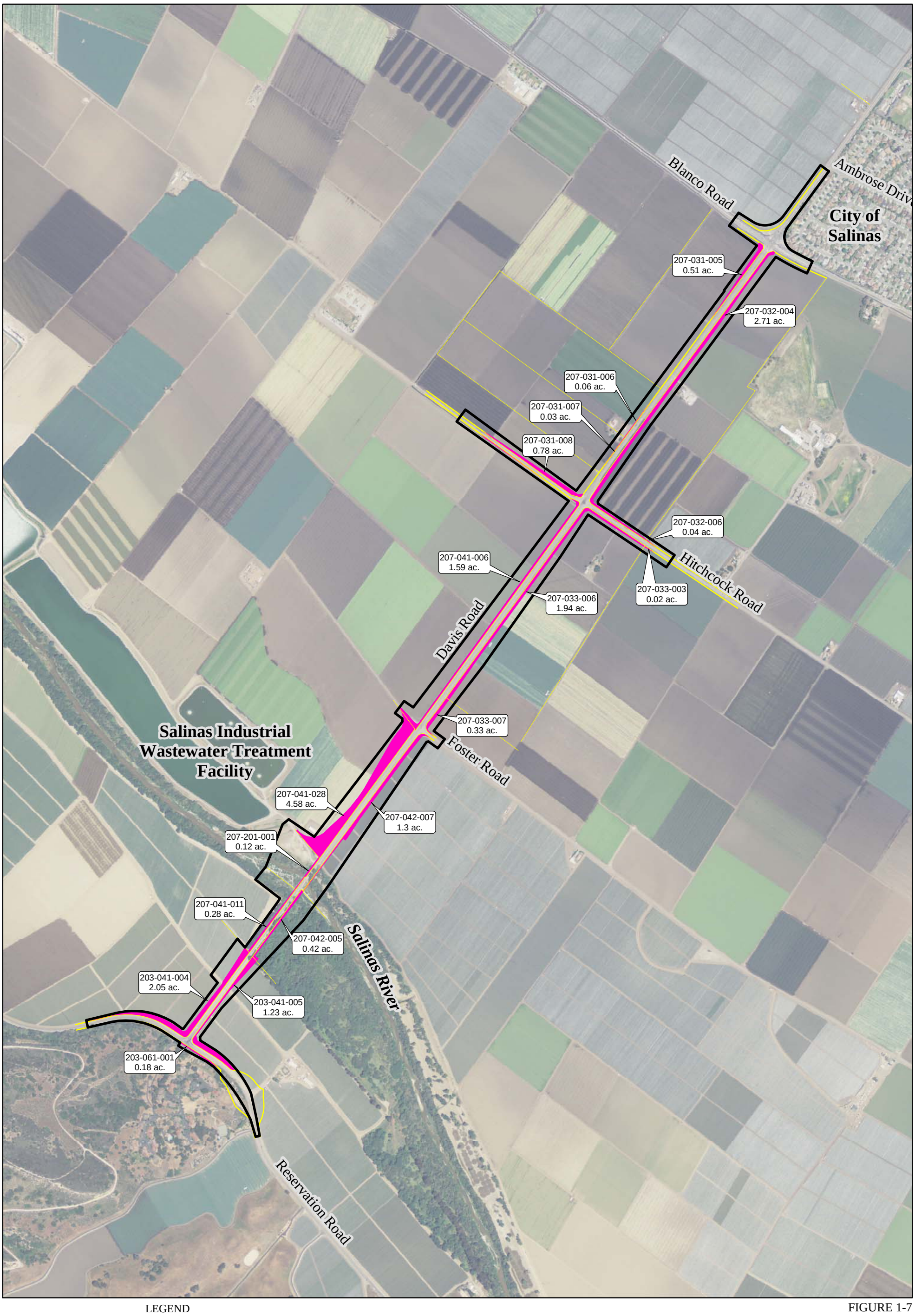

LEGEND

Right-of-way Acquisitions

Parcel Line

N

0 500 1000

FEET

FIGURE 1-7

Davis Road Bridge Replacement
and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Preferred Alternative: Right-of-way Acquisitions

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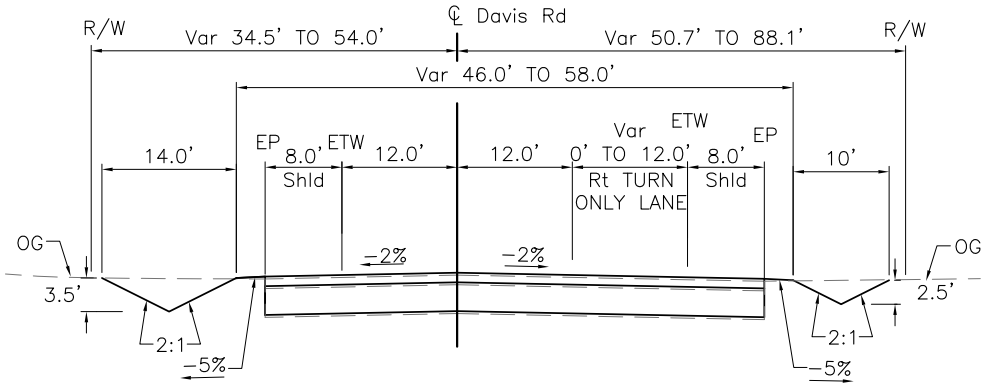
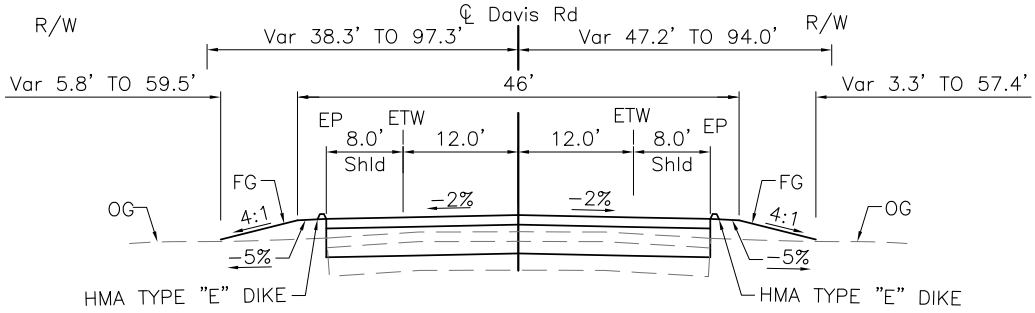


"D" LINE
DAVIS ROAD
STA 174+50 TO 181+50.00



"D" LINE
DAVIS ROAD
STA 170+00 (EB) TO 174+50

FIGURE 1-8

0 10 20
FEET

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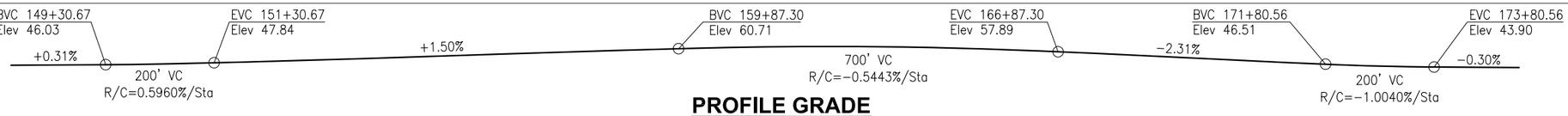
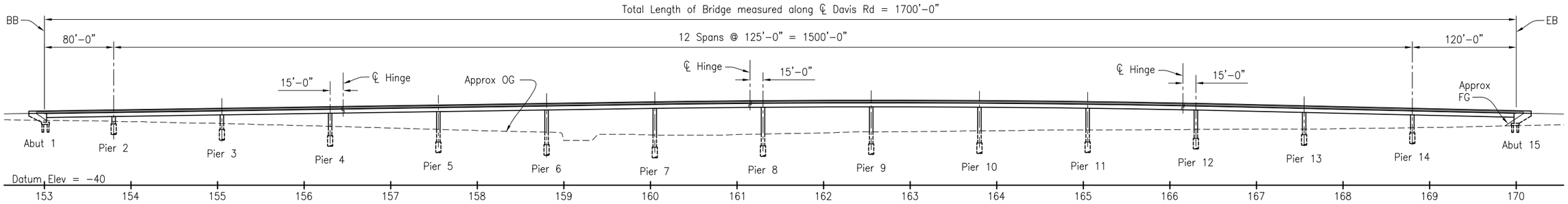


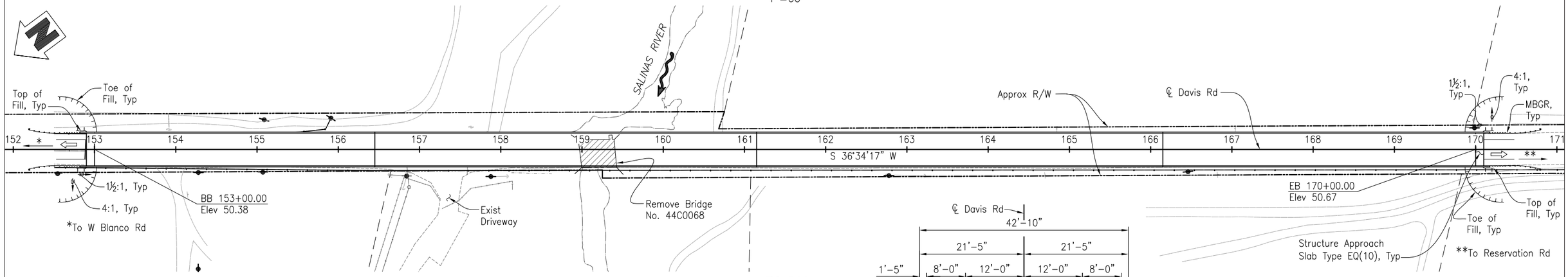
PROFILE GRADE

NO Scale



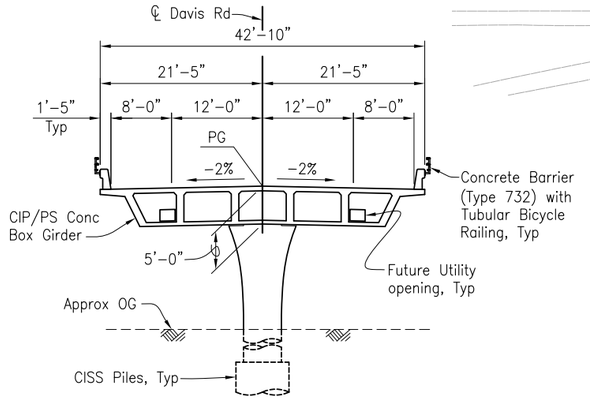
ELEVATION

1"=60'



PLAN

1"=60'



TYPICAL SECTION

1"=10'

FIGURE 1-9

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Alternative 2: General Plan of Bridge

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Table 1.5 Property Acquisition by Parcel for the Preferred Alternative

Parcel	Area (acres)	Area (square feet)
203-041-004	2.05	89,101
203-041-005	1.23	53,370
203-061-001	0.18	7,822
207-031-005	0.51	22,087
207-031-006	0.06	2,502
207-031-007	0.03	1,202
207-031-008	0.78	34,126
207-032-004	2.71	118,264
207-032-006	0.04	1,577
207-033-003	0.02	855
207-033-006	1.94	84,308
207-033-007	0.33	14,318
207-041-006	1.59	69,376
207-041-011	0.28	12,166
207-014-028	4.58	199,309
207-042-005	0.42	18,343
207-042-007	1.30	56,734
207-201-001	0.12	5,014
TOTAL	**18.15**	**790,475**

Source: *Project Report* (2014).

Proposed Drainage System

The proposed drainage system between Foster Road and Reservation Road for Alternative 2 would be primarily the same as that proposed for the Preferred Alternative, with one exception:

- **South Bridge Approach to Reservation Road:** To accommodate roadside drainage, instead of infiltration ditches, two V-ditches would be installed on each side of Davis Road, beginning approximately 500 ft south of the south bridge abutment to Reservation Road.

Tree Removal

Alternative 2 would require the removal of 14 trees along the Salinas River corridor: 12 native riparian trees (e.g., 2 black cottonwoods and 10 red willows) and 2 nonnative blue gum trees.

Property Acquisition

Alternative 2 would acquire approximately 6.13 ac of land from public and private property owners (refer to Table 1.6). Refer to Figure 1-10 for the location of the acquisitions.

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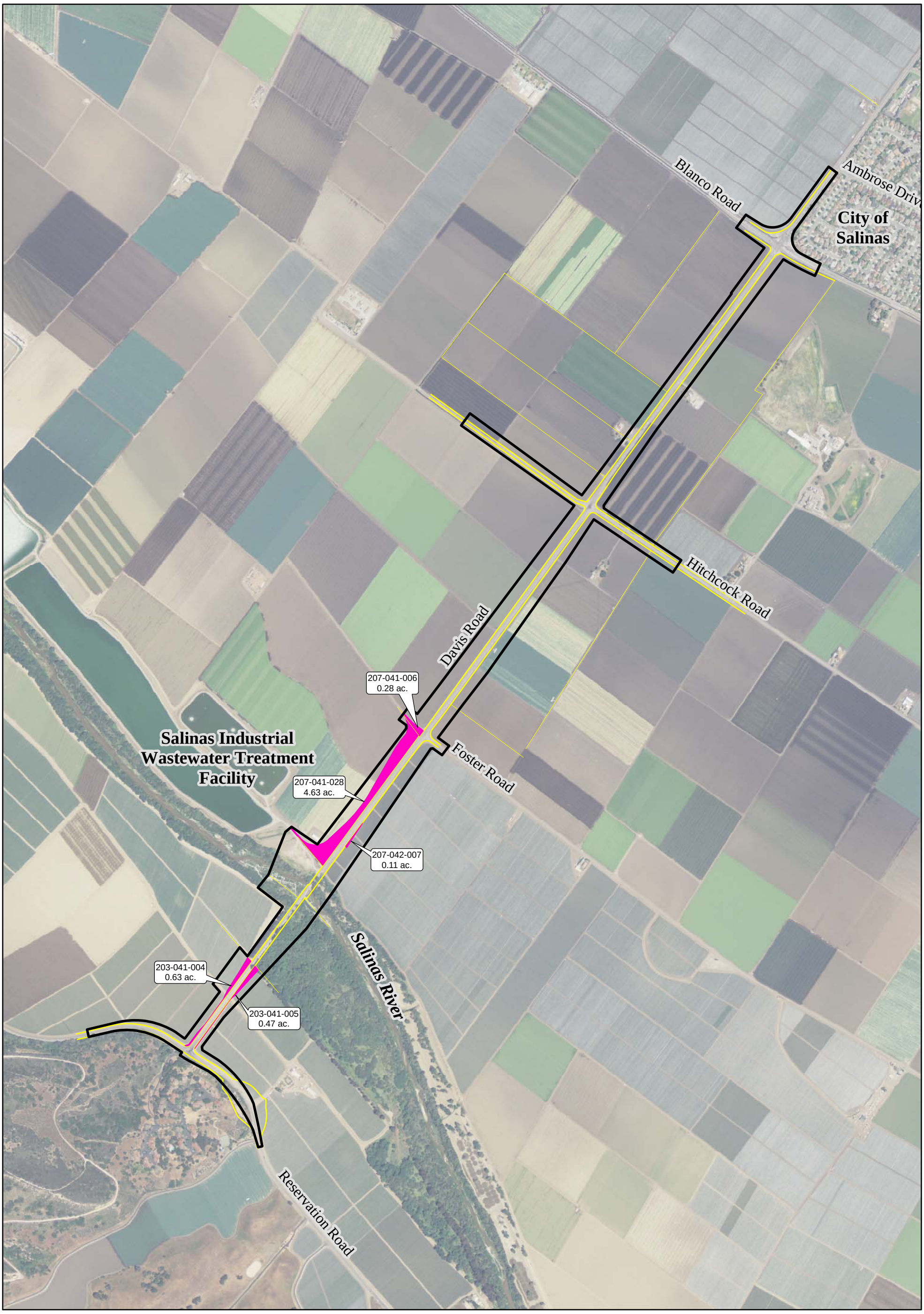

LEGEND

Right-of-way Acquisitions

Parcel Line

N

0 500 1000

FEET

Source: USDA NAIP Imagery (05/2012).

FIGURE 1-10

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Alternative 2: Right-of-way Acquisitions

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Table 1.6 Property Acquisition by Parcel for Alternative 2

Parcel	Area (ac)	Area (sf)
203-041-004	0.63	27,455
203-041-005	0.47	20,652
207-041-006	0.28	12,250
207-041-028	4.63	201,739
207-042-007	0.11	4,906
TOTAL	**6.13**	**267,001**

Source: *Project Report* (2014).
ac = acres
sf = square feet

1.4.3 Transportation System Management and Transportation Demand Management Alternatives

Although Transportation System Management (TSM) measures alone could not satisfy the purpose and need of the project, the following TSM measures have been incorporated into the Build Alternatives for this project:

- A new traffic signal at the Davis Road/Hitchcock Road intersection and Class II bicycle lanes in both directions along Davis Road would be provided. In addition, the Preferred Alternative would include turning lanes on Davis Road. Left-turn lanes would be provided for northbound and southbound Davis Road travelers at Hitchcock Road and at Foster Road. An additional right-turn lane would also be provided at the Davis Road/Reservation Road intersection.

Transportation Demand Management (TDM) strategies focus on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. The proposed Class II bicycle lanes would provide an alternate method of travel that may reduce the number of vehicle trips and vehicle miles traveled on Davis Road.

1.4.4 Comparison of Alternatives

Criteria for the evaluation of the Build Alternatives included: (1) whether the Alternative met the stated purpose and need of the proposed project, (2) economic feasibility, (3) property acquisitions, (4) utility pole relocations, (5) cultural resource impacts, (6) agricultural land impacts, and (7) impacts to the hydrologic regime of the Salinas River. These criteria were selected in an attempt to define important differences between the Build Alternatives including the size of the area of direct project impacts and types and numbers of substantial environmental effects. Refer to

Table 1.7 for a comparison of the two Build Alternatives and the No Build Alternative per the criteria listed above.

After comparing and weighing the benefits and impacts of all feasible alternatives, including Alternative 2 and the No Build Alternative, the County and Caltrans have preliminarily identified the Preferred Alternative as the preferred alternative, subject to public review. Final identification of a preferred alternative will occur after the public review and comment period. Based on public comment provided during the scoping process and ongoing coordination with County agencies and organizations, the Preferred Alternative has also been identified as the "Locally Preferred Alternative."

All comments will be considered, and the County and Caltrans will make the final determination of the project's effect on the environment. The County will certify that the project complies with CEQA, prepare a findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. The County will then file a Notice of Determination with the State Clearinghouse that will identify whether the project will have significant impacts, whether mitigation measures were included as conditions of project approval, and will state that findings were made and a Statement of Overriding Considerations was adopted. Similarly, if Caltrans, as assigned by the FHWA, determines the NEPA action does not significantly impact the environment, Caltrans will issue a Finding of No Significant Impact (FONSI).

1.5 Alternatives Considered but Eliminated from Further Discussion

A number of Alternatives (i.e., more than 30 potential combinations of roadway alignment and bridge type options) were initially identified. The engineers prepared the equivalent of a Project Report to analyze each possible combination from the perspective of cost and feasibility and to narrow the list of alternatives for further and more in-depth analysis. The following information provides a more complete discussion of the alternatives that were analyzed more in depth in the engineers' Project Report and why each one was eventually eliminated:

Table 1.7 Comparison of the Alternatives

Criteria	The No Build Alternative	Preferred Alternative	Alternative 2
Meets the project purpose and need/objectives	No, the No Build Alternative would not meet any of the objectives of the purpose and need of the proposed project because no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not provide any of the following needs: • Meet current structural and geometric design standards; • Provide an all-weather crossing that can accommodate seasonal high flows of the river; • Accommodate projected travel demand for the 2040 planning horizon at an acceptable LOS; and • Improve traffic safety.	Yes, the Preferred Alternative would meet all of the objectives of the purpose and need of the proposed project because in replacing the bridge and widening Davis Road it would: • Meet current structural and geometric design standards; • Provide an all-weather crossing that can accommodate seasonal high flows of the river; • Accommodate projected travel demand for the 2040 planning horizon at an acceptable LOS; • Improve traffic safety.	No, Alternative 2 would not meet all of the objectives of the purpose and need of the proposed project because in replacing only the bridge and not widening Davis Road, Alternative 2 would not: • Accommodate projected travel demand for the 2040 planning horizon at an acceptable LOS; • Improve traffic safety along Davis Road.
Economic feasibility (cost of construction, ROW, and utility relocations)	$ 0	Current cost: $52,113,000 Estimated cost at 2% annual inflation rate: $57,490,000	Current cost: $24,807,000 Estimated cost at 2% annual inflation rate: $27,370,000
Property acquisitions	0 acres	18.15 acres	6.13 acres
Utility pole relocations[1]	0	32	11
Size of Direct Project Impacts and Environmental Effects			
Cultural resource impacts	0 acres	0 acres	0 acres
Agricultural land impacts	0 acres	15.75 acres	4.74 acres
Impacts to the hydrologic regime of the Salinas River	The Salinas River would continue to overtop the Davis Road Bridge during seasonal high water.	The removal of the old bridge would result in a wider, more natural stream channel and flow dynamic that would result in a beneficial effect to the hydrologic regime, natural communities, and ecosystems.	The removal of the old bridge would result in a wider, more natural stream channel and flow dynamic that would result in a beneficial effect to the hydrologic regime, natural communities, and ecosystems.

[1] The total cost and party responsible for the utility pole relocations will be provided by a PG&E project manager assigned to the proposed project after the County has submitted a formal request to relocate its gas and electric facilities to PG&E.

LOS = level of service
ROW = right of way

- **Alternative 1A: Widen Roadway to the East.** Alternative 1A included the same roadway improvements and bridge features as the Preferred Alternative; however, it would require the reconstruction of the existing Davis Road/Reservation Road intersection and create an undesirable offset with the driveway located on the south side of Reservation Road, directly across from Davis Road. Shifting the Davis Road improvements at this intersection would result in significant cost impacts and would not be a beneficial effect to the County since a new traffic signal was just constructed at this intersection. Therefore, Alternative 1A was eliminated.
- **Alternative 1C: Widen Roadway to the East and Provide a Four-Lane Bridge over the Salinas River Farther East of the Existing Roadway.** Alternative 1C included the same roadway improvements and bridge features as the Preferred Alternative; however, the new bridge would be east of the existing Davis Road. Because the bridge would be farther east, longer transitions on both the south and north sides of the bridge would be required to tie back into the alignment. The tie-in point to Reservation Road on the south would be infeasible with a 1,700 ft bridge because there would be inadequate room to transition the alignment back to match the Reservation Road improvements. Therefore, Alternative 1C was eliminated.
- **Alternative 2 (no relationship to Build Alternative 2 currently being proposed): Widen Roadway to the East, North of the Bridge, and Centered at the Four-Lane Bridge over the Salinas River and South of the Bridge.** Alternative 2 included the same roadway improvements and bridge features as the Preferred Alternative; however, the new bridge and road south of the bridge would be centered along the existing alignment of Davis Road. As Davis Road approaches Blanco Road to the north, the alignment would shift to the west to tie into the existing improvements at the Davis Road/Blanco Road intersection. However, by centering the road south of the bridge, the existing Davis Road/ Reservation Road intersection would need to be reconstructed. Shifting the Davis Road improvements at this intersection would result in additional cost impacts and would not be a beneficial effect to the County. Therefore, Alternative 2 was eliminated.
- **Alternative 3: Widen Roadway Centered on the Existing Alignment.** Alternative 3 included the same roadway improvements and bridge features as the Preferred Alternative; however, nearly all of the widening, including the four-lane bridge, would occur centered along the existing Davis Road centerline. South of the bridge, the alignment shifted to the west to tie into the proposed improvements

at Reservation Road. North of the bridge, the widening occurred symmetrically on both sides to tie into the improvements at Blanco Road. This would result in direct ROW impacts to the residence located on the west side of Davis Road, north of Hitchcock Road. Approximately 10 ft of the existing front yard would be impacted from the relocated fence line. Alternative 3 would not create impacts to the high-voltage lines located on the west side of the existing Davis Road; however, it would affect approximately 34 high-voltage poles and 20 joint utility poles. The cost to relocate these poles is excessive (up to $100,000 for each pole). This would result in a significant cost impact to the project. Therefore, Alternative 3 was eliminated.

- **Alternative 4: Widen Roadway to the West and Provide a Four-Lane Bridge over the Salinas River.** Alternative 4 included the same roadway improvements and bridge features as the Preferred Alternative; however, nearly all of the widening, including the four-lane bridge, would occur to the west of the existing Davis Road centerline. South of the bridge, the alignment would tie in directly to the proposed improvements at Reservation Road. North of the bridge, the widening would occur west of Davis Road and tie into the improvements at Blanco Road. Alternative 4 would create substantial impacts to the high-voltage lines located on the west side of the existing Davis Road. Similar to Alternative 3, 34 high-voltage poles would be impacted, resulting in a significant cost impact to the project. In addition, there would be a direct ROW impact to the home located on the west side of Davis Road, north of Hitchcock Road. The widening would result in impacts to the existing residential structure. Therefore, Alternative 4 was eliminated.

1.5.1 Alternative Bridge Configurations

In addition to the alternative alignments described above, different bridge configurations were also evaluated during the preliminary design phase. The main issue in the decision-making process for the proposed project was the Salinas River floodway and floodplain. The floodplain extends the full length of the project, and the floodway is approximately 1,700 ft wide at the Davis Road crossing. Thus, raising Davis Road would impede the natural flow of floodwaters though the area. It was also determined that if any bridge piers were located in the floodway, backwater elevations would increase, which would not be allowed. Therefore, solutions to lower water surface elevations were explored concurrently with the study of various bridge configurations. Provided below are the feasible options, identification of the opportunities and constraints of each option, and respective cost and risk factors. The

goal was to identify a preferred option and then proceed with the development of that bridge configuration.

Five possible project configurations were identified:

- **Configuration 1, Channel Grading:** This configuration included an 8- or 10-span, conventional, 1,180 ft long bridge type with 46,000 cubic yards (cy) of channel grading, 4.3 ac of ROW acquisition, and 4.3 ac of required mitigation. This configuration would achieve a 100-year flood passage with no backwater effects; however, the significant amount of grading would have some significant permitting disadvantages. Therefore, this configuration was eliminated.
- **Configuration 2, Clear Span:** This configuration would cross the Salinas River with a long, clear-span bridge. It is estimated that a 1,700 ft long bridge would be required to keep any portion of the bridge out of the Federal Emergency Management Agency (FEMA) floodway. There would be minimal ROW impacts and low mitigation costs. This configuration would not affect backwater elevations; however, a 100-year flood passage would not be contained within the Salinas River Channel. Therefore, this configuration was eliminated.
- **Configuration 3, Long Bridge:** This configuration is similar to Configuration 1 except that the length of the bridge would be 1,700 ft in order to avoid placing the abutments in the floodway. This configuration would also include grading beneath the lengthened portion of the bridge; however, all grading would occur well above the ordinary high water mark (OHWM) in order to achieve a 100-year flood passage with no backwater elevation effects. Therefore, this configuration was selected as the preferred configuration for the bridge.
- **Configuration 4, CLOMR:** This configuration would include building a conventional structure with no channel grading and obtaining a Conditional Letter of Map Revision (CLOMR) from FEMA that documents the increased water surface elevations and hydrologic impacts. Mitigating construction, such as channel work and flood protection structures, would be anticipated although the extent is undefined at this point. It is anticipated that this configuration would result in significant impacts to the floodway. Therefore, this configuration was eliminated.
- **Configuration 5, No Build:** This configuration would not construct a new bridge over the Salinas River. This configuration would be the same as the existing conditions and would result in Davis Road flooding quite frequently and closing from January to April. Therefore, this configuration was eliminated.

The advantages and disadvantages of each configuration are summarized in Table 1.8.

1.6 Permits and Approvals Needed

The permits, reviews, and approvals identified in Table 1.9 may be required for construction of the proposed project.

Table 1.8 Davis Road Bridge Configuration Comparison

Factor/ Parameter	Configuration 1: Channel Grading	Configuration 2: Clear Span	Configuration 3: Long Bridge	Configuration 4: LOMR	Configuration 5: No Build
Bridge Length	1,180 ft	1,700 ft	1,700 ft	1,180 ft	N/A
Bridge Cost	$20,000,000	$45,000,000	$28,000,000	$20,000,000	N/A
R/W Acquisition	4.3 ac	0 ac	1.5 ac	4.3 ac	N/A
R/W Cost	$1,000,000	$0	$350,000	TBD	N/A
Q100 Passed?	Yes	No	TBD	Yes	N/A
Backwater	0	0	TBD	TBD	N/A
ED Type	EA	CE w/tech studies	EA	EIR	N/A
ED Duration	24–30 months	12 months	18–24 months	30–36 months	N/A
PA Duration	14 months	20 months	12 months	16 months	N/A
Net PA&ED Costs	+$200,000	+500,000	0	TBD	N/A
Total Project Costs (est)	$30,000,000	$50,000,000	$36,000,000	$20,000,000 + TBD	N/A
Risk Factor 1: Relative Cost	Low	High	Moderate	TBD	N/A
Risk Factor 2: Wetland Impacts	Significant	Minimal	Moderate	Significant/ TBD	N/A
Risk Factor 3: Water Quality	Significant	Minimal	Moderate	Significant/ TBD	N/A
Risk Factor 4: Channel Maintenance Costs	Long-term	None	Moderate	Significant/ TBD	Continued aggradation
Risk Factor 5: Environmental Impact Mitigation	Impacts could be deemed permanent if maintenance required	No permanent impacts	Moderate	Significant/ TBD	Frequent flooding and road closure
Risk Factor 6: Permitting	Difficult	Easy	Feasible	Difficult	N/A

Source: *Project Report* (2014).
ac = acres
CE = Categorical Exemption
EA = Environmental Assessment
ED = Environmental Documentation
EIR = Environmental Impact Report
ft = feet
LOMR = Letter of Map Revision
N/A = not applicable
PA = Project Approval
PA&ED = Project Approval and Environmental Document
Q100 = 100-year flood
R/W = right of way
TBD = to be determined

Table 1.9 Permits and Approvals

Agency	Permit/Approval	Status
USFWS and/or NOAA Fisheries Service	Section 7 Endangered Species Act	Because the project may affect but is not likely to adversely affect federally listed California red-legged frog, consultation with USFWS will be required. To facilitate USFWS consultation, a Biological Assessment will be prepared, once a preferred alternative is identified, prior to the preparation of the Final EIR/EA. Because the project may affect but is not likely to adversely affect federally listed steelhead and critical habitat for steelhead, consultation with the NOAA Fisheries Service will be required. To facilitate NOAA Fisheries Service consultation, a Biological Assessment will be prepared prior to the preparation of the Final EIR/EA. Consultation with the USFWS and NOAA Fisheries Service has not yet been initiated.
USACE	Section 404 Nationwide Permit	The JD was been submitted to the USACE for verification on June 4, 2014. Following approval of the JD, a Nationwide Permit pursuant to Section 404 of the CWA will be obtained for the proposed project concurrent with a Lake or Streambed Alteration Agreement and a Water Quality Certification.
CDFW	Section 1602 Lake or Streambed Alternation Agreement	The JD has been submitted to the USACE for verification. Following approval of the JD, a Lake or Streambed Alteration Agreement pursuant to Section 1602 of the California Department of Fish and Game Code will be obtained for the proposed project concurrent with a Nationwide Permit and a Water Quality Certification.
RWQCB	Section 401 Water Quality Certification	The JD has been submitted to the USACE for verification. Following approval of the JD, a Water Quality Certification pursuant to Section 401 of the CWA will be obtained for the proposed project concurrent with a Nationwide Permit and a Lake or Streambed Alteration Agreement.
SWRCB	General Construction Storm Water Permit	Obtain before the start of construction
	Phase II Municipal General Permit Order No. 2013-0001-DWQ) (NPDES Permit No. CAS000004)	Obtain before the start of construction
	Waste Discharge Requirements for the City of Salinas Municipal Storm Water Discharges (Order No. R3-2012-0005) (NPDES Permit No. CA0049981)	Obtain before the start of construction.

CDFW = California Department of Fish and Wildlife
CWA = Clean Water Act
EIR/EA = Environmental Impact Report/Environmental Assessment
JD = Jurisdictional Delineation
NOAA Fisheries Service = National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NPDES = National Pollutant Discharge Elimination System
RWQCB = Regional Water Quality Control Board
SWRCB = State Water Resources Control Board
USACE = United States Army Corps of Engineers
USFWS = United States Fish and Wildlife Service

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

Chapter 2 describes the existing affected environment in the project area for the Davis Road Bridge Replacement and Road Widening Project (proposed project). The affected environment is the base environmental condition on which environmental effects of the Build Alternatives are evaluated.

The sections in Chapter 2 include the regulatory setting applicable to the environmental topic, a description of the affected environment, environmental effects resulting from the No Build and Build Alternatives, and measures to avoid, minimize, or mitigate adverse impacts of the Build Alternatives. The Build Alternatives include the Preferred Alternative, the Preferred Alternative – Design Variation, and Alternative 2. The Preferred Alternative – Design Variation would require changes to the roadway and bridge cross sections for the Preferred Alternative but would not change the outermost limits of direct impacts of the roadway or bridge as currently proposed under the Preferred Alternative. The Preferred Alternative, the Preferred Alternative – Design Variation, and Alternative 2 are discussed separately, instead of homogeneously as "Build Alternatives," only when there is a difference in impacts. Tables and figures are included throughout Chapter 2 to support the impact analyses.

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

- **Coastal Zone:** The Coastal Zone does not extend in the Greater Salinas Land Use Area.[1] The proposed project is located within the Greater Salinas Land Use Area, approximately 7 miles (mi) from the Pacific Ocean. Therefore, the project area is

[1] County of Monterey Resource Management Agency. Monterey County Planning Areas. Last accessed October 8, 2014 from http://www.co.monterey.ca.us/planning/images/planning_luA.jpg.

not located in the Coastal Zone and would not result in any impacts in the Coastal Zone.

- **Wild and Scenic Rivers:** There are no rivers listed in the National Inventory of Wild and Scenic Rivers in the project area.[1] Therefore, the proposed project would not result in any impacts to any wild and scenic rivers.
- **Parks and Recreation Facilities:** Hartnell Neighborhood Park is the closest park to the project area and is approximately 0.50 mi northeast of the northernmost portion of the project area in the City of Salinas. The tennis courts located off Reservation Road adjacent to the southeasterly limits of the project area are part of The Bluffs gated community and not available to the public. There are no publicly owned parks or other recreational facilities/uses located in the project area. Therefore, the proposed project would not result in any impacts to any parks or other recreational facilities/uses in the project area. Refer to Appendix B for an evaluation of this resource relative to the requirements of Section 4(f).
- **Relocations and Real Property Acquisitions:** The proposed project would acquire some farmland adjacent to Davis Road. For a discussion on property acquisitions, refer to Section 1.4, Alternatives. The Build Alternatives would not relocate or displace any people or structures within the project area. Therefore, the proposed project would not have any impacts associated with relocations.
- **Environmental Justice:** As defined by Senate Bill (SB) 115, environmental justice is "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws and policies." The project area is in an unincorporated portion of Monterey County, south of the City of Salinas. The majority of the lands surrounding the project area are agricultural lands and low-density residential land uses, both to the south (at the intersection of Davis Road and Reservation Road) and to the north (at the intersection of Davis Road and Blanco Road) within the City of Salinas. The proposed project would not result in the displacement of any individuals or homeowners within or adjacent to the project area. Therefore, the proposed project would not result in any impacts associated with environmental justice.

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[1] United States Department of the Interior, Bureau of Land Management. 2013. Wild and Scenic Rivers. Last accessed October 8, 2014 from http://www.blm.gov/ca/st/en/prog/blm_special_areas/wildrivers.html. %20Accessed%20September%20X,%202014.

HUMAN ENVIRONMENT

2.1 Land Use

This section addresses the potential project effects on existing and future land uses, and consistency with land use plans and policies. The information in this section is based on the County of Monterey General Plan (2010) and associated Elements.

2.1.1 Existing and Future Land Use

2.1.1.1 Affected Environment

The existing land uses surrounding the project area are mostly active agricultural lands and homes (refer to Figure 2.1-1). Low-density residential land uses are located to the south (at the intersection of Davis Road and Reservation Road) and to the north (at the intersection of Davis Road and Blanco Road) within the City of Salinas (City). Public/quasi-public (PQP) land borders the west side of Davis Road along the Salinas River, where the Salinas Industrial Wastewater Treatment Facility (SIWTF) is located. The Salinas River flows through the study area from east to west.

According to the General Plan Land Use Element, the future land uses adjacent to the study area are designated as farmland (40-acre [ac] minimum), residential, and PQP (refer to Figure 2.1-2). The majority of the lands surrounding the project area are designated as farmland.

As noted in the Monterey County General Plan, the County of Monterey (County) is undergoing change and growth and is challenged by impacts associated with the conversion of agricultural land and increased traffic and circulation. The Salinas area and greater regional area (Monterey, Marina, and Seaside) are expected to continue to develop. Proposed development in the vicinity of the project area includes the development of the former Fort Ord land as part of the Fort Ord Reuse Plan, including the East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects. Refer to Table 2.1.1 for a list of the planned projects in the vicinity of the project area. In addition, traffic volumes on some of the proposed project roadway segments and intersections are projected to more than double by 2040. The Transportation Agency of Monterey County (TAMC) is in the process of implementing the Marina-Salinas Multimodal Corridor Plan, which includes the proposed project and other proposed improvements aimed at enhancing transit

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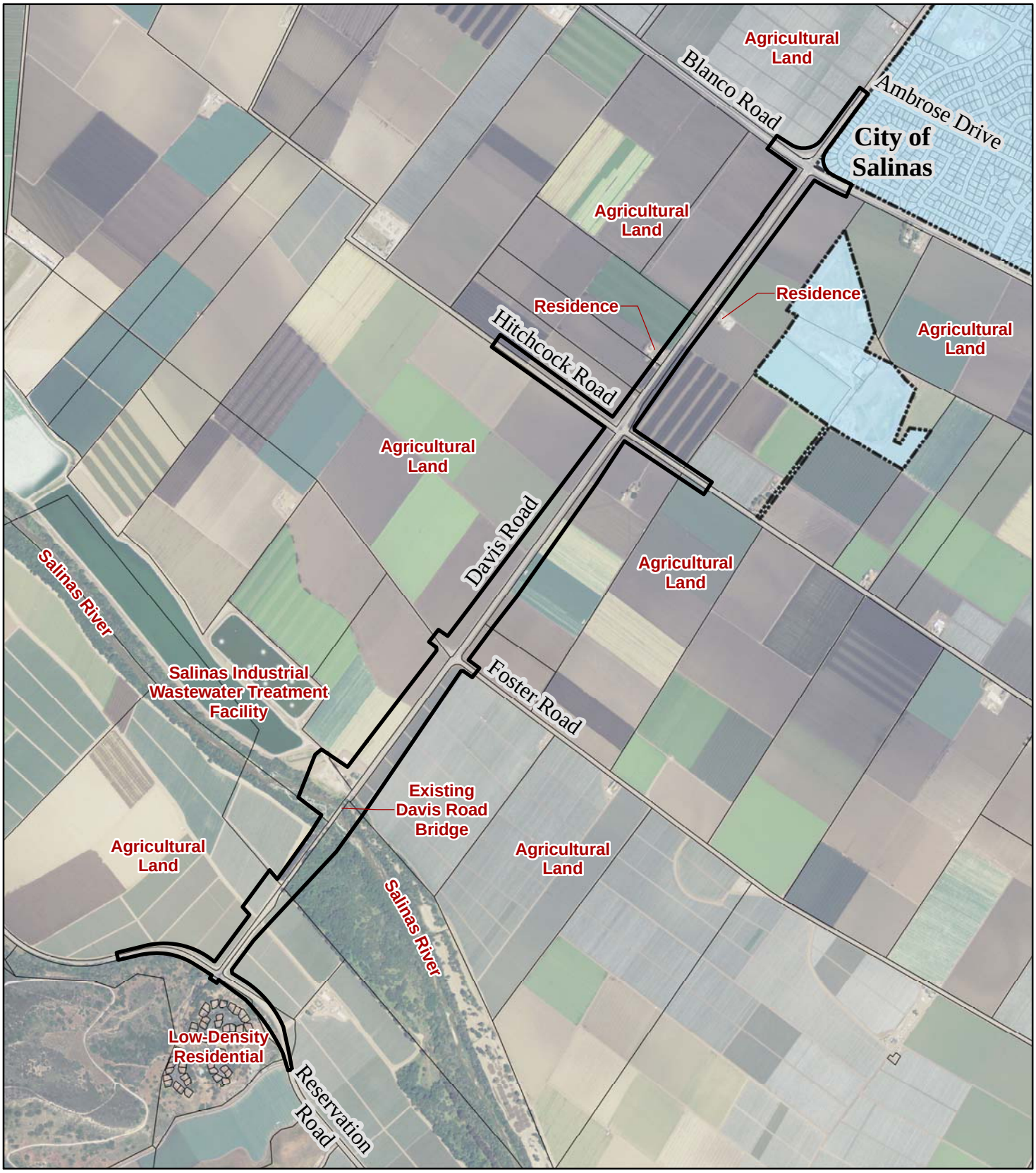

LEGEND

- Project Area
- City of Salinas
- Parcel

N

0 750 1500
FEET

Source: USDA NAIP Imagery (05/2012).

FIGURE 2.1-1

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Existing Land Use

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LEGEND

- Project Area
- City of Salinas
- Roads
- Parcel
- Planning Area

Land Use Plan

- Residential - Low Density 5 - 1 Acres/Unit
- Farmlands 40 Acre Minimum
- Public/Quasi-Public
- Rivers and Water Bodies

N

0 750 1500
FEET

Source: Monterey County (10/2010).

FIGURE 2.1-2

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

General Plan Land Use Plan
Greater Salinas Area

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Table 2.1.1 Other Projects in the Vicinity of the Project Area

Project Name	Location	Land Use/Description	Status
East Garrison Development	244 ac of the Former Fort Ord military base in Monterey County.	Construction of up to 1,470 residences, 75,000 sq ft of commercial uses, 11,000 sq ft of public and institutional uses, 100,000 sq ft of artist/ cultural/educational uses, approximately 50 ac of open space, and construction of associated roadways, landscaping, and utility infrastructure.	Approved and under construction
The Dunes on Monterey Bay	429 ac of the Former Fort Ord military base in the City of Marina.	Construction of up to 1,237 residences, regional and promenade retail, hotels, offices, and parks in the City of Marina.	Approved and under construction
Marina Heights	248 ac of the Former Fort Ord military base in the City of Marina.	Removal of 828 abandoned residential units and construction of 1,050 townhomes, cottages, single-family residential uses and 35 ac of parks, greenbelts, and open space in the City of Marina.	Approved and ready for construction
Marina–Salinas Multimodal Corridor	1.1 mi corridor connecting Marina to Salinas in Monterey County.	n all year long and would also widen Davis modal Corridor that will include a BRT service, bicycle/pedestrian connectivity, and a regional open space trail network.	Pending

Source: Urban Design Associates. 2005. *East Garrison Specific Plan.*
Source: City of Marina. 2015. *The Dunes on Monterey Bay.* http://www.ci.marina.ca.us/index.aspx?nid=204
Source: City of Marina. 2015. *Marina Heights.* http://www.ci.marina.ca.us/index.aspx?nid=202
Source: Transportation Agency for Monterey County. 2012. *Marina Multimodal Corridor TIGER Grant Application.*
ac = acres
BRT = Bus Rapid Transit
mi = miles
sq ft = square feet

and bicycle connectivity between Marina and Salinas, thus shifting local traffic from automobiles to other transportation modes and reducing congestion on the region's transportation system. Refer to Section 2.2, Growth, for a further discussion regarding growth and development trends.

2.1.1.2 Environmental Consequences

Temporary Impacts

No Build Alternative

The No Build Alternative would keep the project area as it is. No proposed improvements would be made; therefore, no adverse temporary impacts to existing and future land uses in the project area would occur.

Build Alternatives

Temporary work associated with the Build Alternatives includes: closing the Davis Road Bridge, closing Davis Road from Blanco Road to Reservation Road (only open for local access), and other construction activities such as the use of heavy earthmoving equipment along Davis Road and the creation of staging areas. A total of four staging areas would be used: two staging areas are located on each side of Davis

Road just south of the bridge; one staging area is located north of the bridge on the west side of Davis Road (just north of the relocated SIWTF) driveway; and one staging area is located north of the bridge on the east side of Davis Road (refer to Figure 2.1-3). The total area of land temporarily impacted by the staging areas would be approximately 3.09 ac (refer to Table 2.1.2). However, construction activities would be temporary and would stop after project completion.

Table 2.1.2 Staging Area Impacts

Staging Area	Parcel	Area (ac)	Area (sq ft)
1	207-041-028	0.96	41,905
2	207-042-007	0.50	21,820
3	203-041-004	1.15	50,163
4	203-041-005	0.48	20,921

ac = acres
sq ft = square feet

Furthermore, the surrounding agricultural land would be restored to its previous condition once construction activities cease. Therefore, none of the proposed temporary activities would result in adverse impacts to land use.

Permanent Impacts

No Build Alternative

Under the No Build Alternative, no proposed project improvements would be made. No permanent land use-related impacts would occur.

Preferred Alternative

The Preferred Alternative would include widening Davis Road from a two-lane facility to a four-lane facility and replacing the existing Davis Road Bridge with a longer four-lane bridge. In order for the roadway to be widened and the bridge to be replaced, farmland would be converted. Table 2.1.3 shows the acreage of farmland that would be converted to County right of way (ROW) (15.74 ac). Refer to Figure 2.3-4 in Section 2.3, Farmlands/Timberlands, for a depiction of farmland impacts from the Preferred Alternative in the study area. The land use changes associated with the Preferred Alternative would be consistent with the approved local and regional transportation plans. Land use character within the study area would be similar to the existing post-construction conditions of the project. Therefore, there would be no adverse permanent land use impacts associated with the Preferred Alternative.

Ambrose Drive

Blanco Road

71+41

72+00

73+00

74+00

75+00

76+00

77+00

78+00

79+00

80+00

81+00

82+00

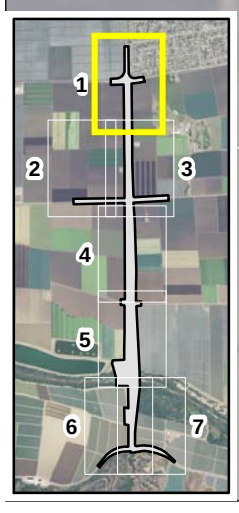
83+00

84+00

85+00

86+00

Davis Road



see Sheet 2

see Sheet 3

LEGEND

- Project Area
- Permanent Impact
- Temporary Impact
- Anticipated Limit of Cut or Fill
- Proposed Bridge
- Staging Area
- Construction Access
- Maintenance Road
- Proposed Right-of-way
- Existing Right-of-way

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.1-3
Sheet 1 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Permanent and Temporary Project Impacts

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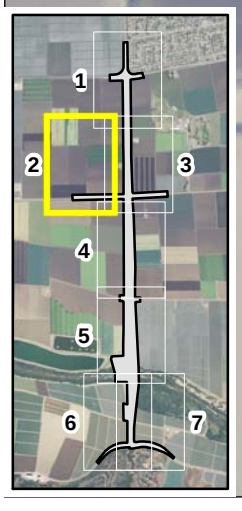
see Sheet 1

see Sheet 3

Hitchcock Road

see Sheet 4



LEGEND

- Project Area
- Permanent Impact
- Temporary Impact
- Anticipated Limit of Cut or Fill
- Proposed Bridge
- Staging Area
- Construction Access
- Maintenance Road
- Proposed Right-of-way
- Existing Right-of-way

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.1-3
Sheet 2 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Permanent and Temporary Project Impacts

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LEGEND

- Project Area
- Permanent Impact
- Temporary Impact
- Anticipated Limit of Cut or Fill
- Proposed Bridge
- Staging Area
- Construction Access
- Maintenance Road
- Proposed Right-of-way
- Existing Right-of-way

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.1-3
Sheet 3 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Permanent and Temporary Project Impacts

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see Sheet 2

see Sheet 3

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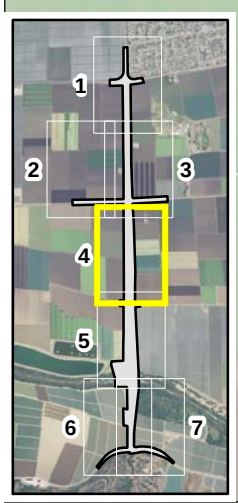
Davis Road

Foster Road

see Sheet 5



LEGEND

- Project Area
- Permanent Impact
- Temporary Impact
- Anticipated Limit of Cut or Fill
- Proposed Bridge
- Staging Area
- Construction Access
- Maintenance Road
- Proposed Right-of-way
- Existing Right-of-way

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.1-3
Sheet 4 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Permanent and Temporary Project Impacts

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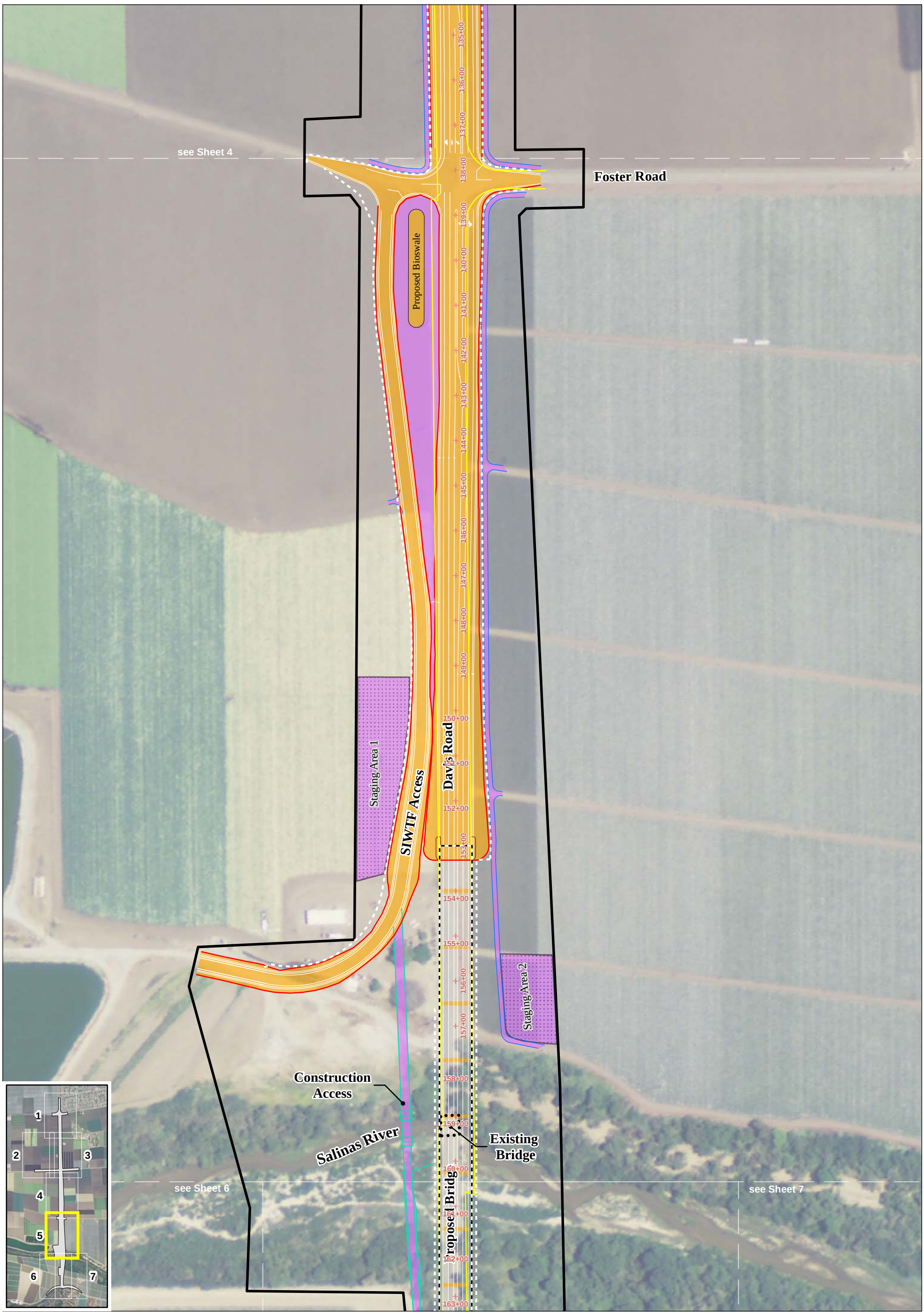

LEGEND

- Project Area
- Permanent Impact
- Temporary Impact
- Anticipated Limit of Cut or Fill
- Proposed Bridge
- Staging Area
- Construction Access
- Maintenance Road
- Proposed Right-of-way
- Existing Right-of-way

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.1-3
Sheet 5 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Permanent and Temporary Project Impacts

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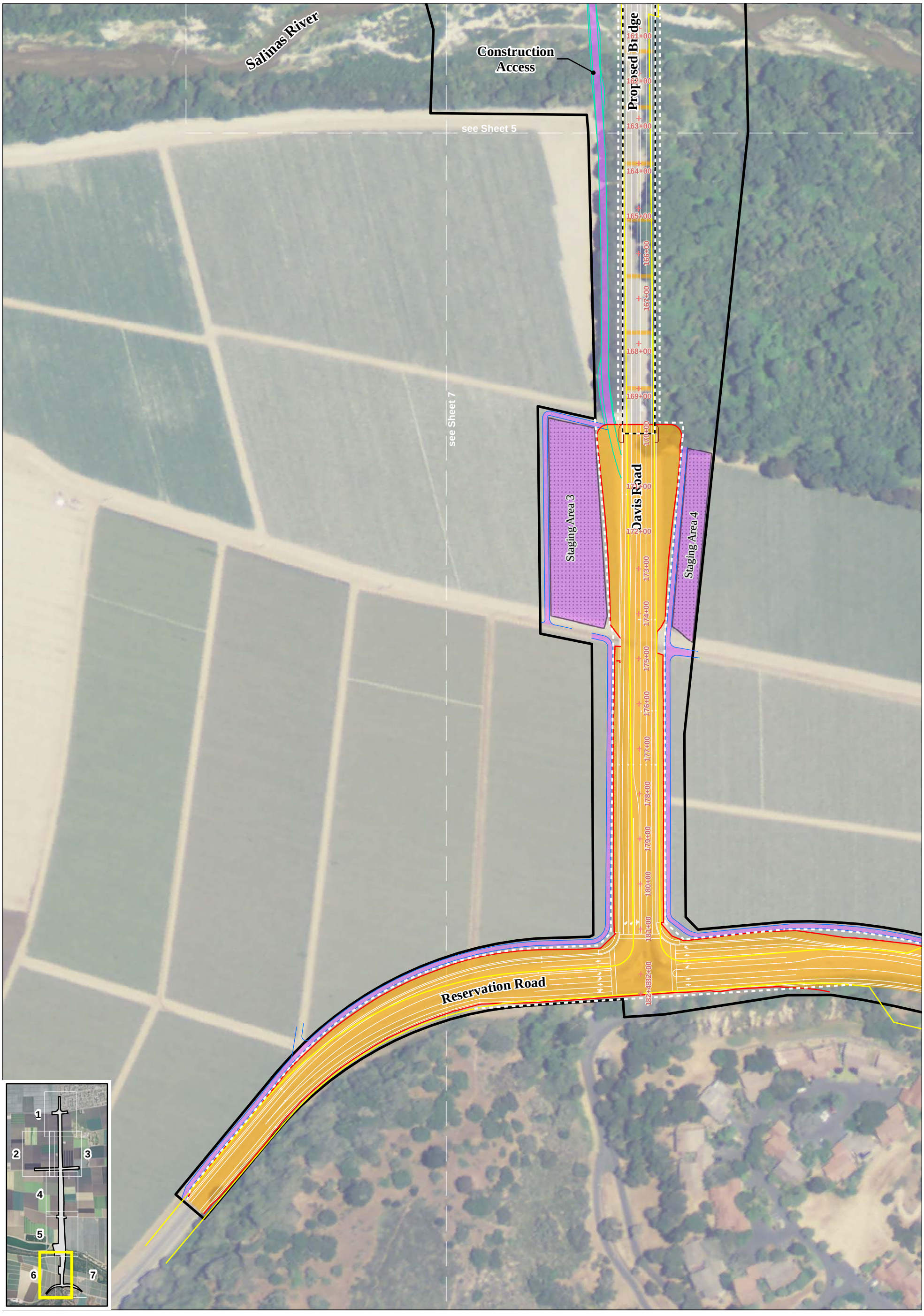

LEGEND

- Project Area
- Permanent Impact
- Temporary Impact
- Anticipated Limit of Cut or Fill
- Proposed Bridge
- Staging Area
- Construction Access
- Maintenance Road
- Proposed Right-of-way
- Existing Right-of-way

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.1-3
Sheet 6 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Permanent and Temporary Project Impacts

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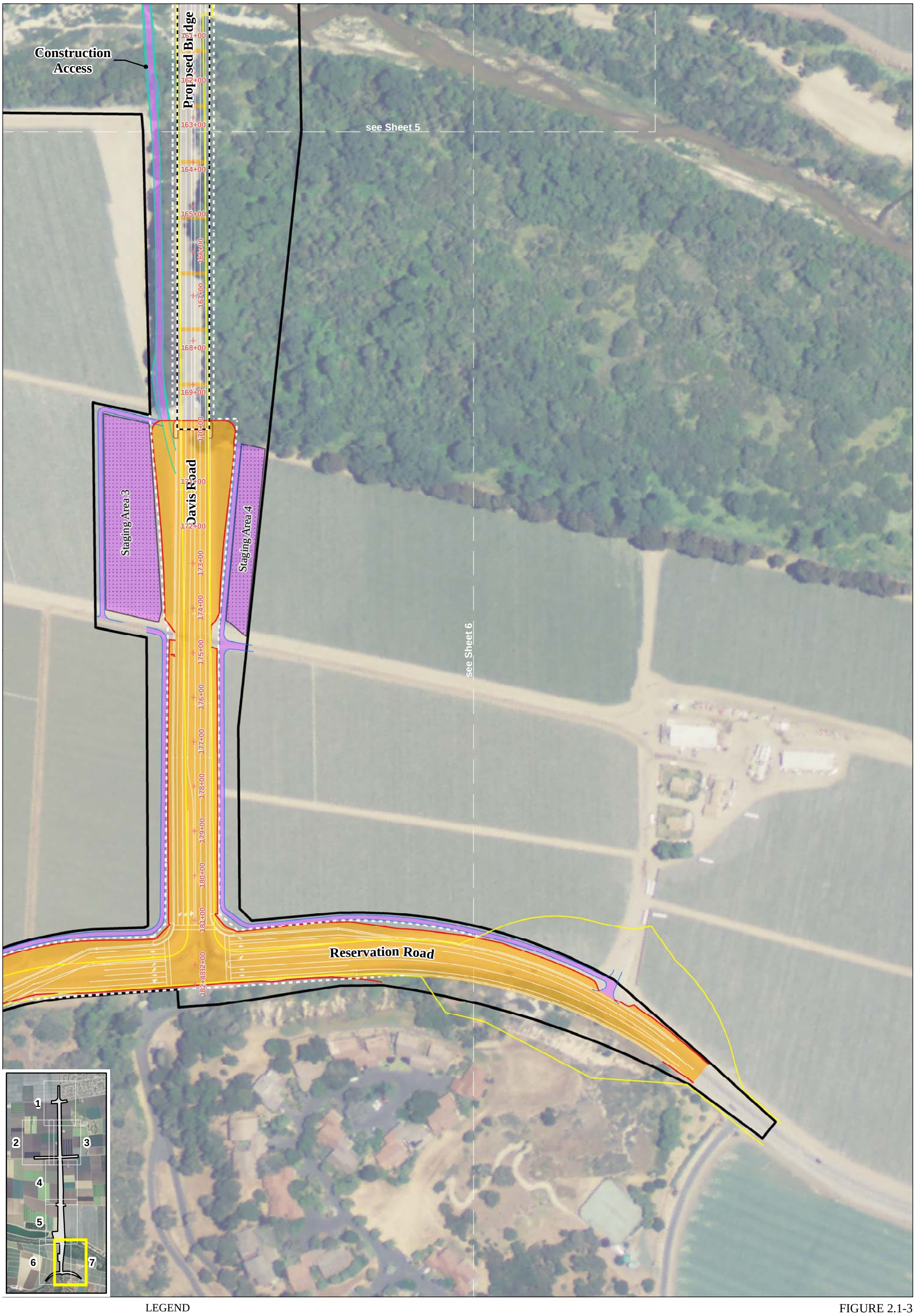

LEGEND

- Project Area
- Permanent Impact
- Temporary Impact
- Anticipated Limit of Cut or Fill
- Proposed Bridge
- Staging Area
- Construction Access
- Maintenance Road
- Proposed Right-of-way
- Existing Right-of-way

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.1-3
Sheet 7 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Permanent and Temporary Project Impacts

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Table 2.1.3 Farmland Conversion by Build Alternative

Build Alternatives	Land Converted (ac)
Preferred Alternative	15.74
Alternative 2	4.74

Source: *Farmland Analysis* (2014).
ac = acres

Alternative 2

Alternative 2 would replace the existing Davis Road Bridge with a longer two-lane bridge. Alternative 2 does not include the widening of Davis Road. However, the improvements to Davis Road and the bridge would require the conversion of 4.74 ac of farmland to County ROW (refer to Table 2.1.3). Refer to Figure 2.3-5 in Section 2.3, Farmlands/Timberlands, for a depiction of farmland impacts from Alternative 2 in the study area. The land use changes associated with Alternative 2 would be consistent with the approved local and regional transportation plans. Land use character within the study area would be similar to the post-construction existing conditions of the project. Therefore, there would be no adverse permanent impacts to land uses associated with Alternative 2.

2.1.1.3 Avoidance, Minimization, and/or Mitigation Measures

Although the land use designation of small parts of some parcels would change, the Build Alternatives would not drastically change land uses in the area because the improvements involve modifying an existing transportation facility. The overall land use in the project vicinity would remain the same. Therefore, no avoidance, minimization, or mitigation measures would be required.

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

2.1.2.1 Affected Environment

The proposed project is primarily located within the unincorporated area of Monterey County, south of the City of Salinas. The project area extends from Reservation Road to Ambrose Road in the City of Salinas. Therefore, the policies and goals from the County of Monterey General Plan (2010) and the City of Salinas General Plan would apply to the proposed project. In addition, regional planning documents for the County of Monterey would also apply to the proposed project.

County of Monterey General Plan

Table 2.1.4 summarizes goals and policies of the County of Monterey General Plan relevant to the proposed project. In addition, the proposed project is specifically included in the County's Greater Salinas Area Plan and the County's Circulation Plan, which are part of the General Plan.

Greater Salinas Area Plan

The project area is included in the Greater Salinas Area Plan area. No specific land use policies apply to the proposed project.

Circulation Plan

In the County's Circulation Plan Davis Road is classified as a Major Road, which, according to the County of Monterey's Roadway Design Standards (County of Monterey 1977), is defined as a four-lane street with parking lanes and sidewalks within a minimum right of way of 84 feet (ft) in width and a minimum surfaced roadbed of 64 ft in width.

City of Salinas General Plan

A portion of the project area extends into the limits of the City of Salinas. Table 2.1.5 summarizes goals and policies of the City of Salinas General Plan relevant to the proposed project. In addition, Davis Road is shown as a major arterial street on the City of Salinas Land Use and Circulation Policy Map. According to the Federal Highway Administration (FHWA), an arterial street is classified as a street that "provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of control."[1] An arterial street commonly has the most travel lanes (two to three per direction), heaviest traffic volumes, higher speeds, controlled access, and widest sidewalks.

AB 1358, California Complete Streets Act

Assembly Bill (AB) 1358, the Complete Streets Act, was signed into law in California in September 2008 and took effect in January 2011. The new law requires cities and counties, when updating their general plans, to ensure that all local streets and roads accommodate the needs of bicyclists, pedestrians, and transit riders as well as motorists.

[1] City of Salinas. 2004. *Pedestrian Plan*.

Table 2.1.4 County of Monterey General Plan Relevant Goals and Policies

Policy/Goal	Policy/Goal Content
Land Use Element	
Goal LU-9	Maintain consistency between the General Plan and its implementing regulations.
Circulation Element	
Goal C-1	Achieve an acceptable level of service by 2030.
Policy C-1.1	The acceptable level of service for County roads and intersections shall be Level of Service (LOS) D.
Policy C-1.10	The County, in coordination with TAMC and other affected agencies, shall continue efforts to improve traffic congestion at critical locations.
Goal C-9	Promote a safe, convenient bicycle transportation system integrated as part of the public roadway system.
Policy C-9.2	Construction or expansion of roadways within major transportation corridors shall consider improving bike routes.
Conservation and Open Space Element	
Goal OS-4	Protect and conserve the quality of the coastal, marine, and river environments, as applied in areas not in the Coastal Zone.
Policy OS-4.1	Federal and State-listed native marine and freshwater species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant shall be protected. Species designated in Area Plans shall also be protected.
Goal OS-5	Conserve listed species, critical habitat, habitat and species protected in area plans; avoid, minimize, and mitigate significant impacts to biological resources.
Policy OS-5.18	Prior to disturbing any federal or state jurisdictional areas, all applicable federal and state permitting requirements shall be met, including all mitigation measures for development of jurisdictional areas and associated riparian habitats.
Policy OS-5.24	The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall require that expansion of its roadways and public infrastructure projects provide movement opportunities for terrestrial wildlife and ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.
Goal OS-6	Encourage the conservation and identification of the County's archaeological resources.
Policy OS-6.1	Important representative and unique archaeological sites and features shall be identified and protected for all parcels with undisturbed natural conditions (i.e., ungraded properties), consistent with State Office of Historic Preservation guidelines and definitions employed on a statewide basis, including Phase I, II, and III studies.
Goal OS-7	Encourage the conservation and identification of the County's paleontological resources.
Policy OS-7.1	Important representative and unique paleontological sites and features shall be identified and protected. Developers shall be required to complete Phase I (reconnaissance level) paleontological reviews in any formation known to yield important elements of the fossil record. If significant fossil deposits are found during grading activities, data recovery shall be required to obtain a sample of materials from such deposits prior to their systematic destruction.
Goal OS-10	Provide for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities.
Policy OS-10.9	The County of Monterey shall require that future development implement applicable Monterey Bay Unified Air Pollution Control District control measures. Applicants for discretionary projects shall work with the Monterey Bay Unified Air Pollution Control District to incorporate feasible measures that assure that health-based standards for diesel particulate emissions are met. The County of Monterey will require that future construction operate and implement MBUAPCD PM_{10} control measures to ensure that construction-related PM_{10} emissions do not exceed the MBUAPCD's daily threshold for PM_{10}. The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development to ensure that construction-related NO_X emissions from non-typical construction equipment do not exceed the MBUAPCD's daily threshold for NO_X.

Table 2.1.4 County of Monterey General Plan Relevant Goals and Policies

Policy/Goal	Policy/Goal Content
Safety Element	
Goal S-1	Minimize the potential for loss of life and property from geologic and seismic hazards.
Policy S-1.3	Site-specific geologic studies may be used to verify the presence or absence and extent of the hazard on the property proposed for new development and to identify mitigation measures for any development proposed. An ordinance including permit requirements relative to the siting and design of structures and grading relative to seismic hazards shall be established.
Goal S-2	Reduce the amount of new development in floodplains and, for any development that does occur, minimize the risk from flooding and erosion.
Goal S-3	Ensure effective storm drainage and flood control to protect life, property, and the environment.
Policy S-3.9	In order to minimize urban runoff affecting water quality, the County shall require all future development within urban and suburban areas to implement Best Management Practices (BMPs) as approved in the Monterey Regional Storm Water Management Program which are designed to incorporate Low Impact Development techniques. BMPs may include, but are not limited to, grassy swales, rain gardens, bioretention cells, and tree box filters. BMPs should preserve as much native vegetation as feasibly possible on the project site.
Policy S-7.10	Construction projects shall include the following standard noise protection measures: • Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience; • All equipment shall have properly operating mufflers; and • Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.
Agriculture Element	
Policy AG-1.8	Development projects on lands designated for agricultural use that require a discretionary permit shall be referred to the County's Agricultural Advisory Committee for their review and recommendation to the decision-making body.

Source: County of Monterey General Plan (2010).
County = County of Monterey
GIS = Geographic Information System
MBUAPCD = Monterey Bay Unified Air Pollution Control District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
TAMC = Transportation Agency of Monterey County

Table 2.1.5 City of Salinas General Plan Relevant Goals and Policies

Goal/Policy	Policy/Goal Content
Circulation Element	
Goal C-1	Provide and maintain a circulation system that meets the current and future needs of the community.
Policy C-1.2	Strive to maintain traffic LOS D or better for all intersections and roadways.
Goal C-2	Work with other local and regional agencies to develop regional transit and transportation systems.
Goal C-4	Provide an extensive, safe public bicycle network that provides on-street as well as off-street facilities.
Policy C-4.5	When possible, ensure that roadway improvements (i.e., widening and restriping) and new overpasses and underpasses allow for safe on-street bike lanes or adequate right-lane space for bicycles.

Source: City of Salinas General Plan (2002).
LOS = level of service

Deputy Directive DD-64-R1, Complete Streets Program

The intent of the California Department of Transportation (Caltrans) Deputy Directive DD-64-R1 regarding "Complete Streets" is to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of "complete streets." A complete street is defined as "a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility." State and federal laws require Caltrans and local agencies to promote and facilitate increased bicycling and walking. The California Vehicle Code (CVC) (Sections 21200–21212), and Streets and Highways Code (Sections 890–894.2) identify the rights of bicyclists and pedestrians, and establish a legislative intent that people of all ages using all types of mobility devices shall be able to travel on roads.

Regional Planning Documents

The proposed project is included in the following regional planning documents:

- Association of Monterey Bay Area Governments (AMBAG) Metropolitan Transportation Improvement Program (MTIP)
- 2014 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)
- TAMC 2014 Regional Transportation Plan (RTP)
- TAMC Marina –Salinas Multimodal Corridor Conceptual Plan
- 2014 State Transportation Improvement Program (STIP) adopted by the California Transportation Commission (CTC)

AMBAG Metropolitan Transportation Improvement Program

The Metropolitan Transportation Improvement Program (MTIP) is a 4-year program whereby transportation facilities, improvements, and service-related projects are programmed for federal, State, and/or local funding. The MTIP is the document through which federal transportation funds are made available to projects. The AMBAG MTIP was adopted on September 10, 2014, and was accepted for joint FHWA/Federal Transit Administration (FTA) air quality conformity determination on December 15, 2014.

2014 Metropolitan Transportation Plan/Sustainable Communities Strategy

The MTP/SCS is a federally mandated long-range transportation plan for the Monterey Bay Area. The MTP/SCS lays out a financially constrained list of transportation projects over the following 25 years that would enhance regional mobility as well as reduce greenhouse gas emissions.

TAMC 2014 Regional Transportation Plan

The County recently updated and finalized the 2014 RTP. The RTP was developed by TAMC for the County to provide a basis for the allocation of state and federal transportation funds to transportation projects within the County over a 20-year timeframe.

TAMC Marina-Salinas Multimodal Corridor Conceptual Plan (TAMC Corridor Conceptual Plan)

The TAMC Corridor Conceptual Plan was developed by TAMC and several partner agencies. The TAMC Conceptual Plan identifies an alignment through the former Fort Ord area that would enhance local transportation networks and determine the types of treatments that would make transit, bicycling and walking more attractive and viable alternatives to driving.

CTC 2014 State Transportation Improvement Program

These guidelines describe the policy, standards, criteria and procedures for the development, adoption and management of the STIP. Funding for the bridge portion of the project would come from the federal Highway Bridge Program (HBP) and the STIP funds allocated by the TAMC

2.1.2.2 Environmental Consequences

Permanent Impacts

No Build Alternative

The No Build Alternative is not consistent with the goals of the proposed project because: (a) it would not replace the existing Davis Road Bridge, which currently experiences seasonal flooding and closure; and (b) it would not improve Davis Road, which currently experiences traffic congestion and delay and is forecasted to experience overall worsening in the future planning year horizons. The existing conditions of Davis Road are not consistent with the regional mobility goals and objectives of the AMBAG MTIP or MTP/SCS, the TAMC 2014 RTP, or the 2014 STIP. The No Build Alternative would also not meet the standards and goals of the

County's and City's General Plan and therefore would hinder the implementation of transportation improvements planned by local and regional planning agencies.

Preferred Alternative

County of Monterey General Plan

The Preferred Alternative would be consistent with applicable County General Plan goals and policies to improve transportation corridors, maintain efficient transportation operations on County roads, coordinate with affected agencies, conserve riverine and critical habitat, preserve cultural resources, reduce flood hazards, minimize noise impacts, and avoid interruption to agricultural activities. In addition, the Preferred Alternative would provide a Class II bicycle lane and the Preferred Alternative – Design Variation would provide a two-way cycle track along Davis Road to promote a safe and convenient bicycle transportation system through the County. Refer to Table 2.1.6 for an analysis of consistency with each relevant goal and policy in the County General Plan.

City of Salinas General Plan

The Preferred Alternative would be consistent with applicable City General Plan goals and policies to improve transportation corridors, maintain efficient transportation operations on City roads, follow relevant permit requirements, and minimize noise impacts. Refer to Table 2.1.6 for an analysis of consistency with each relevant goal and policy in the City General Plan.

AB 1358 (California Complete Streets Act) and Caltrans Deputy Directive DD-64-R1 (Complete Streets Program)

The Preferred Alternative would promote and ensure compliance with Caltrans Deputy Directive DD-64-R1 regarding "Complete Streets" and therefore would be consistent with both AB 1358 and the DD-64-R1 Complete Streets Program.

Regional Planning Documents

The Preferred Alternative is consistent with the regional mobility goals of the AMBAG MTIP, AMBAG MTP/SCS, TAMC 2014 RTP, TAMC Corridor Conceptual Plan, and CTC 2014 STIP. The Davis Road Bridge replacement is included in the MTIP as MYC022M and is therefore consistent with the MTIP. The Preferred Alternative (road widening and bridge replacement) is included as MON-MAR001-MA in the MTP/SCS and in the TAMC 2014 RTP as part of the Marina-Salinas Corridor improvements, and therefore is consistent with the RTP.

Table 2.1.6 Consistency with State, Regional, and Local Plans and Programs

Goal/Policy	Preferred Alternative	Alternative 2	No Build Alternative
County General Plan			
Goal LU-9: *Maintain consistency between the General Plan and its implementing regulations.*	**Consistent.** Implementation of the Preferred Alternative would be consistent with the General Plan and implementing regulations to improve transportation corridors, maintain efficient transportation operations on County roads, promote a safe and convenient bicycle transportation system through the County, coordinate with affected agencies, conserve riverine and critical habitat, preserve cultural resources, reduce flood hazards, minimize noise impacts, and avoid interruption to agricultural activities.	**Partially Consistent.** Implementation of Alternative 2 would be partially consistent with the General Plan and implementing regulations to improve transportation corridors, promote a safe and convenient bicycle transportation system through the County, coordinate with affected agencies, conserve riverine and critical habitat, preserve cultural resources, reduce flood hazards, minimize noise impacts, and avoid interruption to agricultural activities. Implementation of Alternative 2 would not be consistent with the General Plan in that Alternative 2 does not include widening Davis Road and therefore would not maintain efficient transportation operations on County roads.	**Not Consistent.** Implementation of the No Build Alternative would not be consistent with the General Plan and implementing regulations.
Goal C-1: *Achieve an acceptable level of service by 2030.*	**Consistent.** Implementation of the Preferred Alternative includes providing an all-weather bridge over the Salinas River and widening Davis Road to four lanes. Therefore, the Preferred Alternative would accommodate projected travel demand for the 2040 planning horizon at an acceptable LOS.	**Not Consistent.** Under Alternative 2, no improvements to the roadway along Davis Road would be made. Therefore Alternative 2 would not accommodate projected travel demand for the 2040 planning horizon at an acceptable LOS.	**Not Consistent.** Under the No Build Alternative, no improvements to the roadway along Davis Road would be made. Therefore, the No Build Alternative would not accommodate projected travel demand for the 2040 planning horizon at an acceptable LOS.
Policy C-1.1: *The acceptable level of service for County roads and intersections shall be Level of Service (LOS) D.*	**Consistent.** Implementation of the Preferred Alternative would improve the LOS at the intersections and road segments along Davis Road to acceptable levels (above LOS D).	**Not Consistent.** Under Alternative 2, no roadway improvements along Davis Road would be made, and the LOS would degrade to unacceptable levels (below LOS D).	**Not Consistent.** Under the No Build Alternative, no roadway improvements along Davis Road would be made, and the LOS would degrade to unacceptable levels (below LOS D).
Policy C-1.10: *The County, in coordination with TAMC and other affected agencies, shall continue efforts to improve traffic congestion at critical locations.*	**Consistent.** The Preferred Alternative is included in TAMC's Marina-Salinas Corridor Plan, which is part of the 2014 RTP to improve transportation congestion throughout Monterey County.	**Not Consistent.** Alternative 2 does not include widening Davis Road from two to four lanes. Alternative 2 would not relieve traffic congestion along Davis Road. Therefore, Alternative 2 would not improve traffic congestion in critical locations in Monterey County and would not be consistent with the recommended Marina-Salinas Corridor improvements in TAMC's 2014 RTP.	**Not Consistent.** The No Build Alternative would not widen Davis Road from two to four lanes. The No Build Alternative would not relieve traffic congestion along Davis Road. Therefore, the No Build Alternative would not improve traffic congestion in critical locations in Monterey County and would not be consistent with the recommended Marina-Salinas Corridor improvements in TAMC's 2014 RTP.

Table 2.1.6 Consistency with State, Regional, and Local Plans and Programs

Goal/Policy	Preferred Alternative	Alternative 2	No Build Alternative
Goal C-9: *Promote a safe, convenient bicycle transportation system integrated as part of the public roadway system.*	**Consistent.** The Preferred Alternative includes an 8 ft wide paved shoulder along both sides of Davis Road that would be striped as Class II bicycle lanes. The Preferred Alternative – Design Variation includes an 8 ft wide, two-way cycle track on the east side of Davis Road. Including Class II bicycle lanes or a two-way cycle track along Davis Road would help to further the County's goal to promote a safe and convenient bicycle transportation system that is integrated as part of the County roadway system.	**Consistent.** Alternative 2 includes an 8 ft wide paved shoulder along both sides of Davis Road that would be striped as Class II bicycle lanes. Including Class II bicycle lanes along Davis Road would help to further the County's goal to promote a safe and convenient bicycle transportation system that is integrated as part of the County roadway system.	**Not Consistent.** Under the No Build Alternative, no improvements to the Davis Road corridor would be made. Therefore, the No Build Alternative would not promote a safe, convenient bicycle transportation system that is integrated as part of the County roadway system.
Policy C-9.2: *Construction or expansion of roadways within major transportation corridors shall consider improving bike routes.*	**Consistent.** The Preferred Alternative includes outside shoulder/Class II bicycle lanes to improve bike routes. The Preferred Alternative – Design Variation includes a two-way cycle track to improve bike routes.	**Consistent.** Alternative 2 of the proposed project includes outside shoulder/Class II bicycle lanes to improve bike routes.	**Not Consistent.** The No Build Alternative would not construct bicycle lanes. Therefore, the No Build Alternative would not improve bicycle routes.
Goal OS-4: *Protect and conserve the quality of the coastal, marine, and river environments, as applied in areas not in the Coastal Zone.*	**Consistent.** The Preferred Alternative would conserve the quality of the Salinas River environment by replacing the existing bridge with a longer bridge that is completely outside the Salinas River Channel.	**Consistent.** Alternative 2 would conserve the quality of the Salinas River environment by replacing the existing bridge with a longer, bridge that is completely outside the Salinas River Channel..	**Not Consistent.** The No Build Alternative would not replace the existing Davis Road Bridge, which is within the Salinas River Channel and therefore is negatively impacting the river environment at that location.
Policy OS-4.1: *Federal and State-listed native marine and freshwater species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant shall be protected. Species designated in Area Plans shall also be protected.*	**Consistent.** The Preferred Alternative would protect federal and/or State-listed species such as steelhead during construction and operation of the proposed project.	**Consistent.** Alternative 2 would protect federal and/or State-listed species such as steelhead during construction and operation of the proposed project.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to federal and/or State-listed aquatic species or species designated in Area Plans.
Goal OS-5: *Conserve listed species, critical habitat, habitat and species protected in area plans; avoid, minimize, and mitigate significant impacts to biological resources.*	**Consistent.** The Preferred Alternative would conserve listed species, critical habitat, habitat, and species protected in area plans with avoidance, minimization, and mitigation measures.	**Consistent.** Alternative 2 would conserve listed species, critical habitat, habitat, and species protected in area plans with avoidance, minimization, and mitigation measures.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to biological resources.
Policy OS-5.18: *Prior to disturbing any federal or State jurisdictional areas, all applicable federal and State permitting requirements shall be met, including all mitigation measures for development of jurisdictional areas and associated riparian habitats.*	**Consistent.** Prior to construction of the Preferred Alternative, all applicable federal and State permitting requirements would be met, including prescribing and implementing mitigation measures for development of jurisdictional areas and associated riparian habitats.	**Consistent.** Prior to construction of Alternative 2, all applicable federal and State permitting requirements would be met, including prescribing and implementing mitigation measures for development of jurisdictional areas and associated riparian habitats.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to jurisdictional areas.

Table 2.1.6 Consistency with State, Regional, and Local Plans and Programs

Goal/Policy	Preferred Alternative	Alternative 2	No Build Alternative
Policy OS-5.24: *The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall require that expansion of its roadways and public infrastructure projects provide movement opportunities for terrestrial wildlife and ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.*	**Consistent.** Implementation of the Preferred Alternative would involve the removal of the old bridge, including abutments and piles, associated riprap, and the old roadbed that is currently in the Salinas River Channel, This will result in a wider, more natural, stream channel and flow dynamic that would ensure that wildlife can more easily move through the project area, including within the existing stream channels and riparian corridors.	**Consistent.** Implementation of Alternative 2 would involve the removal of the old bridge, including abutments and piles, associated riprap, and the old roadbed that is currently in the Salinas River Channel, This will result in a wider, more natural stream channel and flow dynamic that would ensure wildlife can move more easily through the project area, including in the existing stream channels and riparian corridors.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to wildlife movement corridors.
Goal OS-6: *Encourage the conservation and identification of the County's archaeological resources.*	**Consistent.** Implementation of the Preferred Alternative would result in ground-disturbing activities; however, avoidance, minimization, and mitigation measures would protect archaeological resources from any adverse impacts.	**Consistent.** Implementation of Alternative 2 would result in ground-disturbing activities; however, avoidance, minimization, and mitigation measures would protect archaeological resources from any adverse impacts.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to any archaeological resources in the County.
Policy OS-6.1: *Important representative and unique archaeological sites and features shall be identified and protected for all parcels with undisturbed natural conditions (i.e., ungraded properties), consistent with State Office of Historic Preservation guidelines and definitions employed on a statewide basis, including Phase I, II, and III studies.*	**Consistent.** The Preferred Alternative would not result in any adverse impacts to archaeological sites and would be consistent with State Office of Historic Preservation guidelines.	**Consistent.** Alternative 2 would not result in any adverse impacts to archaeological sites and would be consistent with State Office of Historic Preservation guidelines.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to any unique archaeological sites or features in the County.
OS-7: *Encourage the conservation and identification of the County's paleontological resources.*	**Consistent.** Holocene, the primary geologic unit in the project area, is too recent for significant paleontological resources to occur. Therefore, implementation of the Preferred Alternative would have a low potential to encounter paleontological resources.	**Consistent.** Holocene, the primary geologic unit in the project area, is too recent for significant paleontological resources to occur. Therefore, implementation of Alternative 2 would have a low potential to encounter paleontological resources.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to any paleontological resources in the County.
Policy OS-7.1: *Important representative and unique paleontological sites and features shall be identified and protected. Developers shall be required to complete Phase I (reconnaissance level) paleontological reviews in any formation known to yield important elements of the fossil record. If significant fossil deposits are found during grading activities, data recovery shall be required to obtain a*	**Consistent.** No fossils are known to occur in the project area. Holocene, the primary geologic unit in the project area, is too recent for significant paleontological resources to occur. Therefore, implementation of the Preferred Alternative would have a low potential to encounter paleontological resources.	**Consistent.** No fossils are known to occur in the project area. Holocene, the primary geologic unit in the project area, is too recent for significant paleontological resources to occur. Therefore, implementation of the Preferred Alternative would have a low potential to encounter paleontological resources.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in impacts to any paleontological sites in the County.

Table 2.1.6 Consistency with State, Regional, and Local Plans and Programs

Goal/Policy	Preferred Alternative	Alternative 2	No Build Alternative
sample of materials from such deposits prior to their systematic destruction.			
Goal OS-10: *Provide for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities.*	**Consistent.** Air quality emissions from construction and operation of the Preferred Alternative would be below the MBUAPCD thresholds for criteria air pollutants. Implementation of the Preferred Alternative would not constrain any routine and ongoing agricultural activities.	**Consistent.** Air quality emissions from construction and operation of Alternative 2 would be below the MBUAPCD thresholds for criteria air pollutants. Implementation of Alternative 2 would not constrain any routine and ongoing agricultural activities.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in an increase in air quality emissions and would not constrain any routine and ongoing agricultural activities.
Policy OS-10.9: *The County of Monterey shall require that future development implement applicable Monterey Bay Unified Air Pollution Control District control measures. Applicants for discretionary projects shall work with the Monterey Bay Unified Air Pollution Control District to incorporate feasible measures that assure that health-based standards for diesel particulate emissions are met. The County of Monterey will require that future construction operate and implement MBUAPCD PM_{10} control measures to ensure that construction-related PM_{10} emissions do not exceed the MBUAPCD's daily threshold for PM_{10}. The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development to ensure that construction-related NO_X emissions from non-typical construction equipment do not exceed the MBUAPCD's daily threshold for NO_X.*	**Consistent.** Air quality emissions from construction and operation of the Preferred Alternative would be below the MBUAPCD thresholds. The Preferred Alternative would implement MBUAPCD PM_{10} minimization measures as well as avoidance, minimization, and mitigation measures during construction to assure that health-based standards for diesel particulate emissions are met.	**Consistent.** Air quality emissions from construction and operation of the Preferred Alternative would be below the MBUAPCD thresholds. Alternative 2 would implement MBUAPCD PM_{10} minimization measures as well as avoidance, minimization, and mitigation measures during construction to assure that health-based standards for diesel particulate emissions are met.	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in an increase in air quality emissions during construction or operation.
Goal S-1: *Minimize the potential for loss of life and property from geologic and seismic hazards.*	**Consistent.** The project area is located in a seismically active region of California, and the improvements included in the Preferred Alternative could potentially be subject to seismic ground shaking as well as other geologic hazards such as liquefaction, lateral spreading, and settlement. The Preferred Alternative would be designed in accordance with the requirements of Caltrans Seismic Design Criteria and the American Association of State Highway and	**Consistent.** The project area is located in a seismically active region of California, and the improvements included in Alternative 2 could potentially be subject to seismic ground shaking as well as other geologic hazards such as liquefaction, lateral spreading, and settlement. The Preferred Alternative would be designed in accordance with the requirements of Caltrans Seismic Design Criteria and the American Association of State Highway and	**Consistent.** The No Build Alternative would not involve changes to the existing environment and therefore would not result in a new potential for loss of life and property from geologic and seismic hazards.

Table 2.1.6 Consistency with State, Regional, and Local Plans and Programs

Goal/Policy	Preferred Alternative	Alternative 2	No Build Alternative
	Transportation Official Load and Resistance Factor Design (AASHTO LRFD) Bridge Design Specifications as well as implement avoidance, minimization, and mitigation measures to minimize the potential loss of life and property from geologic and seismic hazards.	Transportation Official Load and Resistance Factor Design (AASHTO LRFD) Bridge Design Specifications as well as implement avoidance, minimization, and mitigation measures to minimize the potential loss of life and property from geologic and seismic hazards.	
Policy S-1.3: *Site-specific geologic studies may be used to verify the presence or absence and extent of the hazard on the property proposed for new development and to identify mitigation measures for any development proposed. An ordinance including permit requirements relative to the siting and design of structures and grading relative to seismic hazards shall be established.*	**Consistent.** The Preferred Alternative would include the preparation of a site-specific Final Geotechnical/Baseline Report to assess and address the geotechnical conditions at the project area.	**Consistent.** Alternative 2 would include the preparation of a site-specific Final Geotechnical/Baseline Report to assess and address the geotechnical conditions at the project area.	**Consistent.** The No Build Alternative would not require a site-specific geologic study because no improvements to Davis Road would be made.
Goal S-2: *Reduce the amount of new development in floodplains and, for any development that does occur, minimize the risk from flooding and erosion.*	**Consistent.** The Preferred Alternative would remove the existing bridge over the Salinas River and replace it with a longer bridge that would not encroach into the floodway of the Salinas River. The new bridge would place the bridge abutments out of the floodway in order to avoid increasing the backwater elevation. In addition, the new bridge would result in a lower water surface elevation compared to the existing conditions and would not increase the base flood elevations.	**Consistent.** Alternative 2 would remove the existing bridge over the Salinas River and replace it with a longer bridge that would not encroach into the floodway of the Salinas River. The new bridge would place the bridge abutments out of the floodway in order to avoid increasing the backwater elevation. In addition, the new bridge would result in a lower water surface elevation compared to the existing conditions and would not increase the base flood elevations.	**Not Consistent.** Under the No Build Alternative, no improvements to the Davis Road Bridge would be made. Therefore, the bridge would continue to flood during high-level storm events, resulting in seasonal road closures over the Salinas River.
Goal S-3: *Ensure effective storm drainage and flood control to protect life, property, and the environment.*	**Consistent.** The Preferred Alternative would modify the existing drainage system to ensure effective storm drainage and flood control associated with the increase in impervious surface area.	**Consistent.** Alternative 2 would modify the existing drainage system to ensure effective storm drainage and flood control associated with the increase in impervious surface area.	**Consistent.** Under the No Build Alternative, no changes to Davis Road or the Davis Road Bridge would be made. Nevertheless, the existing storm drainage and flood control system are capable of protecting life, property, and the environment.
Policy S-3.9: *In order to minimize urban runoff affecting water quality, the County shall require all future development within urban and suburban areas to implement Best Management Practices (BMPs) as approved in the Monterey Regional Storm Water Management Program which are designed to incorporate Low Impact Development techniques. BMPs may*	**Consistent.** The Preferred Alternative would implement approved BMPs by the Monterey Regional Storm Water Management Program (e.g., infiltration ditches with and without check dams and a retention pond).	**Consistent.** Alternative 2 would implement approved BMPs by the Monterey Regional Storm Water Management Program (e.g., infiltration ditches with and without check dams and a retention pond).	**Not Consistent.** A majority of the surface water runoff is not collected via a formularized drainage system but infiltrates into adjacent farmland or flows directly into the Salinas River. There would be no change in existing storm water management along Davis Road under the No Build Alternative. Therefore, the No Build Alternative does not include BMPs

Table 2.1.6 Consistency with State, Regional, and Local Plans and Programs

Goal/Policy	Preferred Alternative	Alternative 2	No Build Alternative
include, but are not limited to, grassy swales, rain gardens, bioretention cells, and tree box filters. BMPs should preserve as much native vegetation as feasibly possible on the project site.			consistent with the Monterey Regional Storm Water Management Program that are designed to incorporate Low Impact Development techniques.
Policy S-7.10: *Construction projects shall include the following standard noise protection measures:* • *Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience;* • *All equipment shall have properly operating mufflers; and* • *Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.*	**Consistent.** The Preferred Alternative would include the implementation of standard construction noise protection measures.	**Consistent.** Alternative 2 would include the implementation of standard construction noise protection measures.	**Consistent.** The No Build Alternative would not require construction noise protection measures because no improvements to Davis Road would be made.
Policy AG-1.8: *Development projects on lands designated for agricultural use that require a discretionary permit shall be referred to the County's Agricultural Advisory Committee for their review and recommendation to the decision-making body.*	**Consistent.** The Preferred Alternative was referred to and discussed at the July 24, 2014, and September 25, 2014, Agricultural Advisory Committee meetings.	**Consistent.** Alternative 2 was referred to and discussed at the July 24, 2014, and September 25, 2014, Agricultural Advisory Committee meetings.	**Consistent.** The No Build Alternative was referred to and discussed at the July 24, 2014, and September 25, 2014, Agricultural Advisory Committee meetings.
City of Salinas General Plan			
Goal C-1: *Provide and maintain a circulation system that meets the current and future needs of the community.*	**Consistent.** The Preferred Alternative includes improvements to Davis Road and the Davis Road Bridge that would improve circulation by providing a bridge that would allow the road to stay open all year long and would also widen Davis Road to accommodate travel demand for the 2040 planning horizon at an acceptable LOS. Therefore, the Preferred Alternative would provide a circulation system to meet the future needs of the community.	**Not Consistent.** Alternative 2 would improve circulation by providing a bridge that would allow the road to stay open all year long. However, Alternative 2 does not include widening Davis Road to accommodate travel demand for the 2040 planning horizon at an acceptable LOS; by the year 2040, the roadway and intersections would operate at unacceptable LOS. Therefore, Alternative 2 would not provide a circulation system that would meet the future needs of the community.	**Not Consistent.** Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. By the year 2040, the roadway and intersections would operate at unacceptable LOS. Therefore, the No Build Alternative would not provide or maintain a circulation system that would meet the future needs of the community.
Policy C-1.2: *Strive to maintain traffic LOS D or better for all intersections and roadways.*	**Consistent.** The Preferred Alternative includes improvements to Davis Road and the Davis Road Bridge that would improve circulation and maintain traffic LOS D or better for this segment of Davis Road and all intersections along the roadway.	**Not Consistent.** Alternative 2 does not include widening Davis Road. Therefore, this segment of Davis Road and all intersections along the roadway would not maintain traffic LOS D or better.	**Not Consistent.** The No Build Alternative does not include improvements to Davis Road or any of the intersections. Therefore, this segment of Davis Road and all intersections along the roadway would not maintain traffic LOS D or better.

Table 2.1.6 Consistency with State, Regional, and Local Plans and Programs

Goal/Policy	Preferred Alternative	Alternative 2	No Build Alternative
Goal C-2: *Work with other local and regional agencies to develop regional transit and transportation systems.*	**Consistent.** The Preferred Alternative is included in TAMC's 2014 RTP as part of the Marina-Salinas Corridor Project.	**Not Consistent.** Under Alternative 2, the Davis Road Bridge would be replaced, but Davis Road would remain two lanes. Therefore, Alternative 2 is not included in TAMC's 2014 RTP.	**Not Consistent.** Under the No Build Alternative, no improvements would be made to Davis Road or the Davis Road Bridge. Therefore, the No Build Alternative is not included in TAMC's 2014 RTP.
Goal C-4: *Provide an extensive, safe public bicycle network that provides on-street as well as off-street facilities.*	**Consistent.** The Preferred Alternative includes an 8 ft wide paved shoulder along both sides of Davis Road that would be striped as Class II bicycle lanes. The Preferred Alternative – Design Variation includes an 8 ft wide, two-way cycle track on the east side of Davis Road. The inclusion of Class II bicycle lanes or the two-way cycle track along Davis Road contributes to the County's goal of providing an extensive, safe public bicycle network that provides on-street facilities.	**Consistent.** Alternative 2 includes an 8 ft wide paved shoulder along both sides of Davis Road that would be striped as Class II bicycle lanes. The inclusion of Class II bicycle lanes along Davis Road contributes to the County's goal of providing an extensive, safe public bicycle network that provides on-street facilities.	**Not Consistent.** Under the No Build Alternative, no improvements to the Davis Road corridor would be made. Therefore, the No Build Alternative would not provide a safe bicycle network.
Policy C-4.5: *When possible, ensure that roadway improvements (i.e., widening and restriping) and new overpasses and underpasses allow for safe on-street bike lanes or adequate right-lane space for bicycles.*	**Consistent.** The Preferred Alternative includes an 8 ft wide paved shoulder along both sides of Davis Road, including over the new Davis Road Bridge, that would be striped as Class II bicycle lanes, thus allowing for safe on-street bike lanes. The Preferred Alternative – Design Variation includes an 8 ft wide, two-way cycle track along Davis Road that would be separated from the outside travel lane by a paved shoulder with a rumble strip and a striped buffer with flexible delineators, thus allowing for safe bicycle travel along Davis Road.	**Consistent.** Alternative 2 includes an 8 ft wide paved shoulder along both sides of Davis Road, including over the new Davis Road Bridge, that would be striped as Class II bicycle lanes, thus allowing for safe on-street bike lanes.	**Does not apply.** The No Build Alternative does not include improvements to Davis Road. Since this policy applies to projects that involve roadway improvements, the No Build Alternative would not be subject to this Policy.

Source: County of Monterey General Plan (2010).
Source: City of Salinas General Plan (2002).
Caltrans = California Department of Transportation
County = County of Monterey
ft = feet
LOS = level of service
MBUAPCD = Monterey Bay Unified Air Pollution Control District
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
RTP = Regional Transportation Plan
TAMC = Transportation Agency of Monterey County

The Preferred Alternative would use federal funds to replace the Davis Road Bridge from the STIP allocated by TAMC and therefore would be consistent with the goals and policies in the STIP.

Alternative 2

County of Monterey General Plan

Alternative 2 would be consistent with applicable General Plan goals and policies to conserve riverine and critical habitat, preserve cultural resources, reduce flood hazards, minimize noise impacts, and avoid interruption to agricultural activities. Since Alternative 2 proposes to replace the Davis Road Bridge but does not propose to widen the roadway, Alternative 2 would be inconsistent with the goals and policies outlined in the Circulation Element of the General Plan regarding improving transportation corridors and maintaining efficient transportation operations on County roads. However, Alternative 2 would provide a Class II bicycle lane along Davis Road to promote a safe and convenient bicycle transportation system through the County. Refer to Table 2.1.6 for an analysis of consistency with each relevant goal and policy in the County General Plan.

City of Salinas General Plan

Alternative 2 would be consistent with applicable City General Plan goals and policies to follow relevant permit requirements and minimize noise impacts. Alternative 2 would be inconsistent with the goals and policies outlined in the Circulation Element of the General Plan regarding improving transportation corridors and maintaining efficient transportation operations on City roads. Refer to Table 2.1.6 for an analysis of consistency with each relevant goal and policy in the City General Plan.

AB 1358 (California Complete Streets Act) and Caltrans Deputy Directive DD-64-R1 (Complete Streets Program)

Alternative 2 would promote and ensure compliance with Caltrans Deputy Directive DD-64-R1 regarding “Complete Streets” and therefore would be consistent with both AB 1358 and the DD-64-R1 Complete Streets Program.

Regional Planning Documents

Alternative 2 is consistent with the regional mobility goals of the AMBAG MTIP and CTC 2014 STIP. Alternative 2 is inconsistent with the 2014 MTP/SCS, the TAMC 2014 RTP, and the TAMC Conceptual Corridor Plan. The Davis Road Bridge replacement is included in the MTIP as MYC022M and therefore is

consistent with the MTIP. Alternative 2 does not include the road widening and proposes to replace the Davis Road Bridge with a two-lane bridge; therefore, Alternative 2 would be inconsistent with the MTP/SCS and part of the Marina-Salinas Corridor improvements in the TAMC 2014 RTP (MON-MAR001-MA). Alternative 2 would use federal funds to replace the Davis Road Bridge from the STIP allocated by TAMC and therefore would be consistent with the goals and policies in the STIP.

2.1.2.3 Avoidance, Minimization, and/or Mitigation Measures

No adverse impacts pertaining to consistency with federal, State, regional, and local plans are anticipated. Therefore, no avoidance, minimization, or mitigation measures would be required.

2.2 Growth

2.2.1 Regulatory Setting

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

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

2.2.2 Affected Environment

The data provided in the Transportation Agency for Monterey County (TAMC) 2014 Monterey County Regional Transportation Plan (RTP) was used to evaluate growth trends in population, housing, and employment in the project area.

2.2.2.1 Population, Housing, and Employment Growth Trends

Population

The population in Monterey County (County) is forecast to increase from 415,057 in 2010 to 447,516 by 2020 and to 495,086 by 2035 (refer to Table 2.2.1). The 19.28 percent increase in population from 2010 to 2035 is higher than both the forecast increases for the City of Salinas (City) and unincorporated areas of Monterey County.

Table 2.2.1 Population Growth

Location	2010	2020	2035	Percent Increase (2010 to 2035)
Monterey County	415,057	447,516	495,086	19.28%
City of Salinas	150,441	156,793	172,499	14.66%
Unincorporated Areas of Monterey County	100,213	102,847	104,304	4.08%

Source: U.S. Census Bureau, 2010, Census.

The City had a population of 150,441 in 2010 that is projected to increase to 156,793 by 2020 and to 172,499 by 2035 (refer to Table 2.2.1). The 14.66 percent change from 2010 to 2035 is the fifth lowest in the County, where many smaller cities are expected to have much larger percent increases. According to the City's General Plan, future growth areas are located primarily to the northeast and east of the current city boundaries, with one growth area located on the west side of the City.

Within the County, the unincorporated areas are projected to have the lowest percent increase in population in the County (4.08 percent) from 2010 to 2035. The 2010 population of 100,213 is projected to increase to 102,847 by 2020 and to 104,304 by 2035 (refer to Table 2.2.1).

Housing

The County is projected to have a 13.62 percent increase in housing from 2010 to 2035. The County, which contained a total of 139,048 housing units in 2010, is expected to increase to 147,106 by 2020 and to 157,992 by 2035 (refer to Table 2.2.2).

Table 2.2.2 Housing Growth

Location	2010	2020	2035	Percent Increase (2010 to 2035)
Monterey County	139,048	147,106	157,992	13.62%
City of Salinas	42,651	43,174	46,883	9.92%
Unincorporated Areas of Monterey County	38,971	39,337	39,735	0.08%

Source: U.S. Census Bureau, 2008-2012 American Community Survey.

The City is projected to have a 9.92 percent increase in the number of housing units from 2010 to 2035. The number of units is projected to increase from 42,651 in 2010 to 43,174 by 2020 and to 46,883 by 2035 (refer to Table 2.2.2). As previously discussed, this growth is expected to occur to the north and northeast of the City, with one area on the west side of the City.

Similar to population increases, the unincorporated areas in the County are projected to have a low percent increase in housing. Housing is projected to increase 0.08 percent from 2010 to 2030. Housing numbers, which totaled 38,971 in 2010, are expected to increase to 39,337 by 2020 and to 39,735 by 2035 (refer to Table 2.2.2).

Employment

Employment throughout the County is expected to increase through 2035, with the total employment numbers increasing from 181,972 in 2010 to 222,137 by 2035. The two largest industries by employment numbers in inland Monterey County are the agricultural and service industries. These two industries are projected to perform strongly through 2035. In inland areas, employment numbers in all sectors are expected to increase through 2035.

2.2.3 Environmental Consequences

The growth impact analysis follows the "first-cut" screening guidelines provided in the California Department of Transportation (Caltrans) Guidance for Preparers of Growth-Related, Indirect Impact Analyses (February 2012).The first-cut screening was conducted to determine what influence the Davis Road Bridge Replacement and Road Widening Project might have on growth and development in the project area. The screening evaluated the following:

- How, if at all, does the proposed project potentially change accessibility?
- How, if at all, do the proposed project type, project location, and growth pressure potentially influence growth?
- Is project-related growth "reasonably foreseeable?"
- If there will be project-related growth, how, if at all, would that growth affect resources of concern?

2.2.3.1 Temporary Impacts

Any potential growth-related impacts would be permanent and are therefore discussed below under Permanent Impacts.

2.2.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made; therefore, the No Build Alternative would not result in the permanent adverse growth-related effects potentially associated with the Build Alternatives.

Build Alternatives

Potential to Change Accessibility

The reduction in congestion through the project area with implementation of the Preferred Alternative, which would widen the Davis Road Bridge to four lanes, would result in decreased delays for those vehicles traveling on Davis Road, but would not

result in new access opportunities. Alternative 2 would not include widening of Davis Road and therefore would not help reduce the congestion associated with future increased traffic demand on Davis Road and would also not result in new access opportunities. Improved accessibility along Davis Road would not promote an increase in growth in this area because there are currently no planned development projects within the project area that rely on the transportation improvements planned for Davis Road. Furthermore, the Build Alternatives are not connected to any planned development projects that would use Davis Road as an access point. Therefore, since the Build Alternatives would not provide any new access to and/or from the area, the Build Alternatives would not result in any adverse impacts associated with changes in accessibility.

Project Factors' Influence on Growth

The bridge replacement and road widening included in the Preferred Alternative, while contributing to reduced congestion in the overall transportation system, are not expected to substantially influence growth in the study area. This is because the enhancements are intended to improve circulation along Davis Road and provide all weather access over the Salinas River, but would not be expected to increase system efficiency to a level that would substantially increase the overall capacity of the transportation system or the attractiveness of certain areas for development. Alternative 2 would provide an all-weather crossing over the Salinas River but no road widening would occur. Implementation of either Build Alternative would not cause a substantial shift in growth patterns and therefore would not be a major contributing factor to growth.

Davis Road is located in an unincorporated part of Monterey County, just outside the southwestern extent of the City of Salinas. The area surrounding the project study area is largely actively farmed agricultural land. Due to the importance of agricultural production in Monterey County as stated in the goals and policies of the County General Plan, it is unlikely that a bridge replacement/roadway improvement project would result in the conversion of adjacent agricultural land to future development. Therefore, implementation of the Build Alternatives would not have adverse effects related to the location of the project.

As previously discussed, the land surrounding the project study area is land currently in agricultural production that is unlikely to change land use from implementation of the Build Alternatives. In addition, while the overall efficiency of the transportation system in the area may be improved, it is unlikely that the Build Alternatives will

influence growth because it is unlikely that the Build Alternatives would be sufficient to attract new development to an area not already proposed for development or to modify the type, location, or timing of development in those areas; therefore, the Build Alternatives would not result in growth-related effects. Since growth-related effects are unlikely, there are no adverse impacts to influencing growth.

Reasonably Foreseeable Growth

The Build Alternatives would replace the current bridge over the Salinas River and/or widen Davis Road to add additional lanes. The project would not involve the construction of any new housing and, due to the importance of agriculture in Monterey County, it is unlikely the prime agricultural lands around the project study area would be developed as a result of the project. As discussed above, the project would provide roadway capacity to accommodate future growth that is anticipated in the General Plan, but it is not expected to influence the location or timing of that growth. Therefore there are no reasonably foreseeable growth impacts with implementation of the Build Alternatives.

Growth Effects on Resources of Concern

The Build Alternatives are not expected to influence the amount, type, timing, or location of growth in the project area or surrounding lands and therefore would not result in adverse growth-related effects on any resources of concern.

2.2.4 Avoidance, Minimization, and/or Mitigation Measures

There are no growth-related effects associated with the Build Alternatives; therefore, no avoidance, minimization, and/or mitigation measures are required.

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2.3 Farmlands/Timberlands

2.3.1 Regulatory Setting

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

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

2.3.2 Affected Environment

The information in this section is based on the *Farmland Analysis* (May 2014) prepared for the project. There is no timberland located within the project study area; therefore, impacts to timberlands are not discussed.

2.3.2.1 Regional Agriculture

The project study area is located in an unincorporated area in Monterey County (County), which is California's third largest agricultural producer. The temperate climate, rich soils, and infrastructure support system make the County ideal for growing cool season vegetables, wine grapes, strawberries, and flowers. The largest commodities produced in the County are leaf lettuce and herbs. Along with vegetable crops, the County also produces fruits and nuts, field crops, nursery crops, and seed crops. From 2008 to 2010, the County of Monterey gained 3,313 acres (ac) in its irrigated farmland footprint, which were associated with vineyards and limited vegetable crop expansions, while losing 2,837 ac, for a net increase of 476 ac in Important Farmlands.[1]

[1] California Department of Conservation, Farmland Mapping and Monitoring Program, *California Farmland Conversion Report 2008–2010*. April 2014.

The land uses surrounding the proposed project are predominantly irrigated row crop agriculture and widely spaced residences and agricultural structures along Davis Road, residential areas adjacent to West Blanco Road and Reservation Road, and riparian forest along the Salinas River.

As shown in Table 2.3.1 below, the project study area contains the following acreages of farmlands and non-farmlands per the County, the Department of Conservation (DOC), and the United States Department of Agriculture's (USDA's) land mapping categories. Figure 2.3-1 shows the distribution of farmlands and non-farmlands in and around the project study area.

Table 2.3.1 Farmland Acres by Category within the Project Study Area

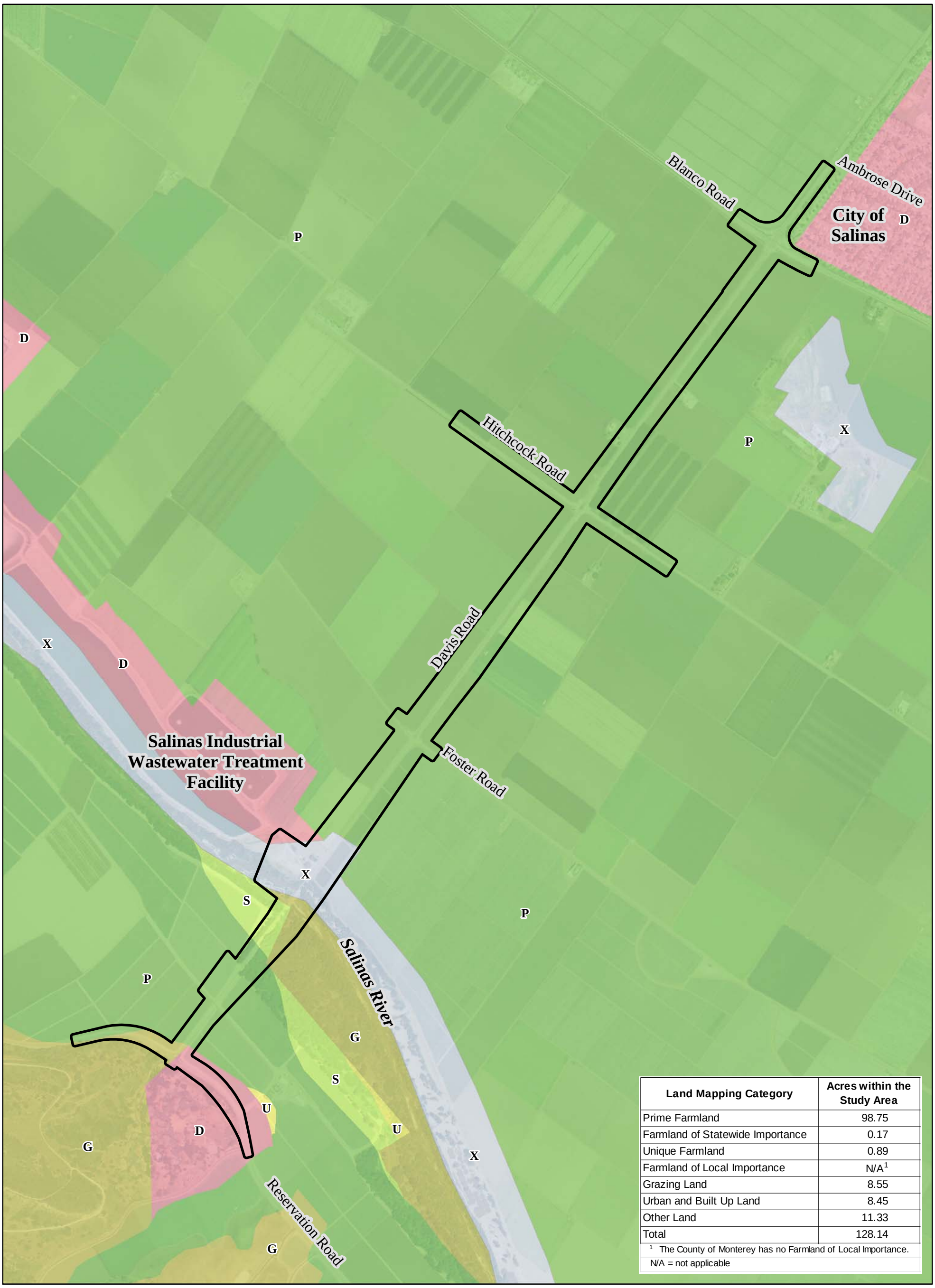
Land Mapping Category	Acres within the Study Area
Prime Farmland	98.75
Farmland of Statewide Importance	0.17
Unique Farmland	0.89
Farmland of Local Importance	N/A[1]
Grazing Land	8.55
Urban and Built Up Land	8.45
Other Land	11.33
Total	**128.14**

Source: *Farmland Analysis* (May 2014)
[1] The County of Monterey has no Farmland of Local Importance.
N/A = not applicable

2.3.2.2 Williamson Act Land

The County of Monterey has approximately 735,000 ac of land designated as Williamson Act preserves, including 32,000 ac of land under the Farmland Security Zone. The County divides Williamson Act contract land into five categories: Prime Agricultural Land, Non-Prime Agricultural Land, Mixed Enrollment Agricultural Land, Farmland Security Zone, and Non-Renewal.

There are no types of Williamson Act contract lands within the project study area. As shown on Figure 2.3-2, the closest Williamson Act contract lands are approximately 1 mile (mi) from the project study area. Because they are not present within the project study area, William Act contract lands are not discussed further in this section.



Land Mapping Category	Acres within the Study Area
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Grazing Land	8.55
Urban and Built Up Land	8.45
Other Land	11.33
Total	128.14

[1] The County of Monterey has no Farmland of Local Importance.
N/A = not applicable

LEGEND

Farmlands Study Area

FMMP Farmlands

- P Prime Farmland
- S Farmland of Statewide Importance
- U Unique Farmland
- G Grazing Land
- X Other Land
- D Urban and Built-Up Land

FIGURE 2.3-1

N

0 500 1000
FEET

Source: USDA NAIP Imagery (05/2012); Monterey County FMMP (2010).

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Farmlands Study Area

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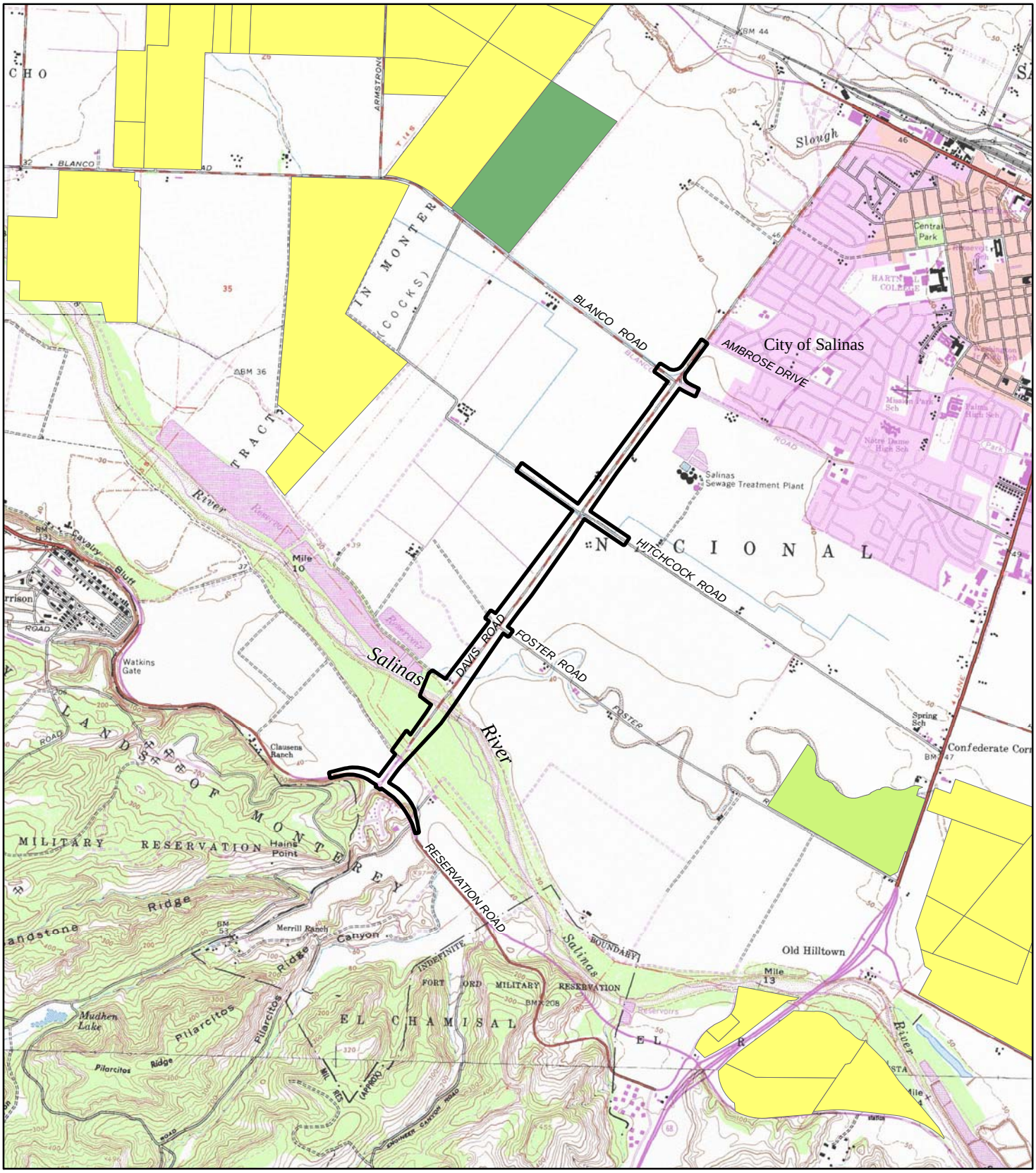

LEGEND

- Farmlands Study Area

Williamson Act Lands 2011/2012

- Prime Agricultural Land
- Mixed Enrollment Agricultural Land
- Farmland Security Zone

N

0 1500 3000

FEET

SOURCE: USGS 7.5-minute Topo Quad - *Salinas, Calif.* (1984) and *Spreckels, Calif.* (1984).

FIGURE 2.3-2

Davis Road Bridge Replacement
and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Williamson Act Lands

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2.3.2.3 Monterey County General Plan, Local Ordinances, and Policies

Monterey County has incorporated elements in its General Plan and developed ordinances and policies to protect farming and promote agricultural practices in the County. These elements are discussed below.

Monterey County General Plan

The Monterey County General Plan (adopted October 26, 2010) acknowledges that considerable development pressure exists to convert valuable agricultural lands to urban uses, particularly around the City of Salinas (City). Therefore, through the goals, objectives, and policies provided within the document, the County's intent is "to protect all viable farmlands, designated as Prime, of Statewide Importance, Unique, or of Local Importance from conversion to and encroachment of nonagricultural uses." The following goals from the Agricultural Element of the General Plan are applicable to the proposed project:

- Promote the long-term protection, conservation, and enhancement of productive and potentially productive agricultural land.
- Assure that the County's land use policies do not inappropriately limit or constrain "routine and ongoing agricultural activities."
- Develop and maintain a circulation system that supports the County's agricultural industry.

Monterey County Zoning Ordinance Title 21 (for Inland Areas)

The agricultural lands in the project study area are zoned Farmlands (F/40). Roadways within the project study area are zoned public/quasi-public. Monterey County Zoning Ordinance Title 21 allows for "public and quasi-public uses" as an Allowable Use, subject to a Use Permit within areas zoned F/40 (Section 21.30.050B).

Monterey County Ag Land Trust (formerly the Agricultural and Historical Land Conservancy, Incorporated)

The Monterey County Ag Land Trust was created in 1984 by County of Monterey residents. The Ag Land Trust accepts agricultural conservation easements by gift or as a result of direct purchase from landowners. The purpose of agricultural conservation easements is to "enable the property to remain in productive agricultural and open space use by preventing the uses of the property which will impair or interfere with those values" (Monterey County Agricultural and Historical Land Conservancy, Inc. 2001a, 2001b, 2001c). As of 2010, the Ag Land Trust has

completed more than 65 agricultural easements, protecting more than 22,000 ac (County of Monterey General Plan Agricultural Element, 2010).

There are three agricultural conservation easements within the study area north of Hitchcock Road along the existing Davis Road. The agricultural conservation easements do not allow any portion of the property that is currently unpaved to be paved or covered, and do not allow for any other road access without the advanced written permission of the Grantee. The locations of the agricultural easements are shown on Figure 2.3-3.

2.3.3 Environmental Consequences

2.3.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no road widening or bridge replacements would occur. Therefore, the No Build Alternative would not result in adverse temporary impacts to farmlands.

Build Alternatives

Temporary impacts to farmlands are associated with the use of staging areas during project construction. A total of four staging areas would be used throughout the project area. Two staging areas are located south of the proposed bridge along Davis Road. The third staging area is located north of the bridge on the west side of Davis Road, just north of the relocated Salinas Industrial Wastewater Treatment Facility (SIWTF) driveway. The final staging area is located north of the bridge on the east side of Davis Road. The locations of the staging areas are shown on Figures 2.3-4 and 2.3-5. For both of the Build Alternatives, temporary impacts of 3.07 ac to Prime Farmland and 0.01 ac to Farmland of Statewide Importance are likely to occur. Both Build Alternatives will not impact any Unique Farmland. Those farmlands used as staging areas would be restored and returned to agricultural use after project construction is completed and would not be permanently converted to nonagricultural uses. Because of the limited acreage affected, temporary impacts to farmlands would not be adverse.

2.3.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no road widening or bridge replacements would occur. Therefore, the No Build Alternative would not result in adverse permanent impacts to farmlands.

LEGEND

Farmlands Study Area

Parcels Subject to Agricultural Easement Described in County Records 2001013353, 2001032383, and 2001032384

0 500 1000
FEET

Source: USDA NAIP Imagery (05/2012).

FIGURE 2.3-3

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Agricultural Easements

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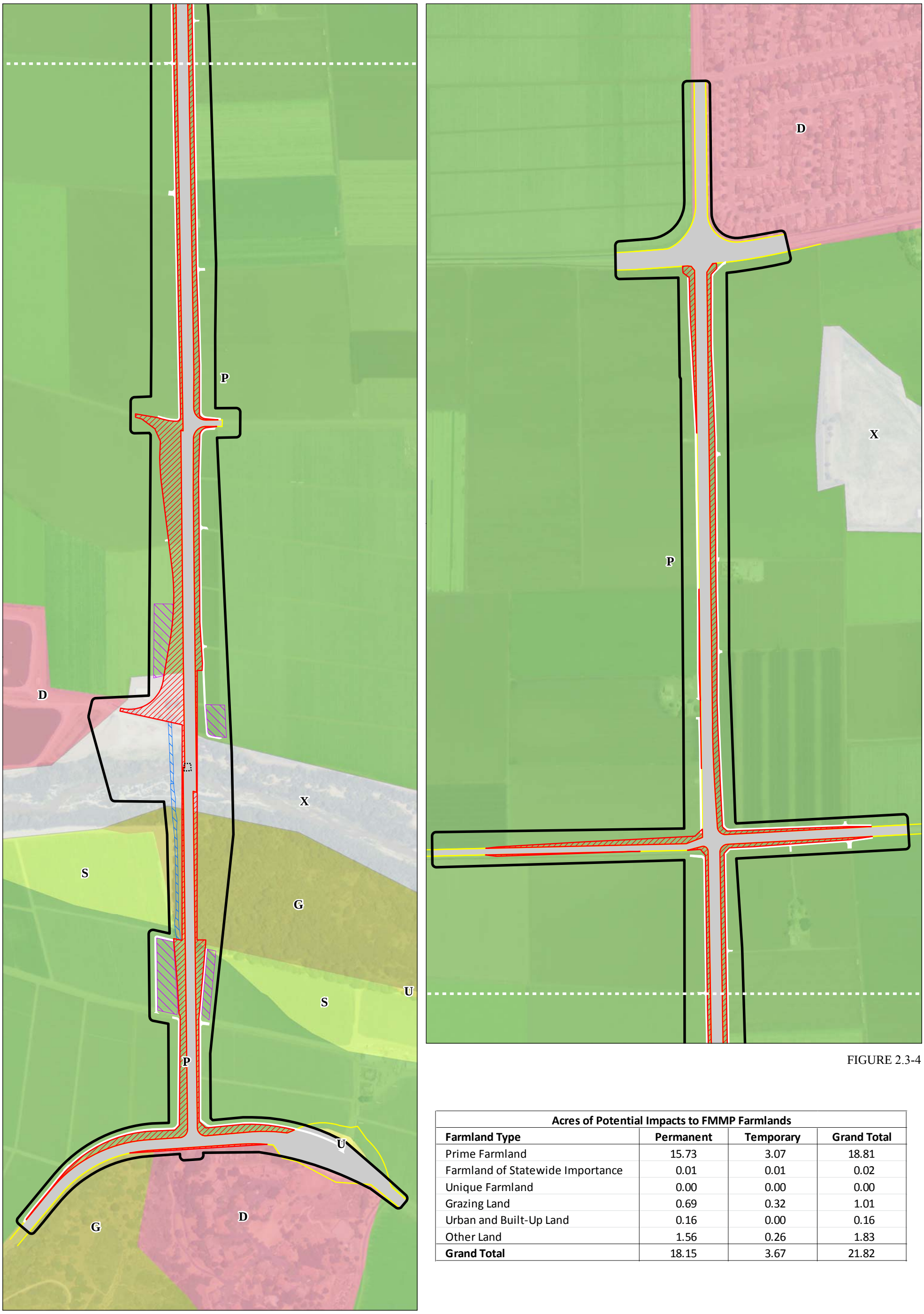

FIGURE 2.3-4

Acres of Potential Impacts to FMMP Farmlands			
Farmland Type	**Permanent**	**Temporary**	**Grand Total**
Prime Farmland	15.73	3.07	18.81
Farmland of Statewide Importance	0.01	0.01	0.02
Unique Farmland	0.00	0.00	0.00
Grazing Land	0.69	0.32	1.01
Urban and Built-Up Land	0.16	0.00	0.16
Other Land	1.56	0.26	1.83
Grand Total	18.15	3.67	21.82

LEGEND

- Farmlands Study Area
- Permanent Impact (18.1 ac.)

Temporary Impacts

- Construction Access (0.6 ac.)
- Staging Area (3.1 ac.)
- Existing Right-of-way
- Regraded Farm Access Road (5.0 ac.)
- Existing Bridge

FMMP Farmlands

- P Prime Farmland
- S Farmland of Statewide Importance
- U Unique Farmland
- G Grazing Land
- X Other Land
- D Urban and Built-Up Land

0 275 550
FEET

Source: USDA NAIP Orthoimagery (2012). Monterey County FMMP (2010).

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Potential Farmland Impacts - Preferred Alternative

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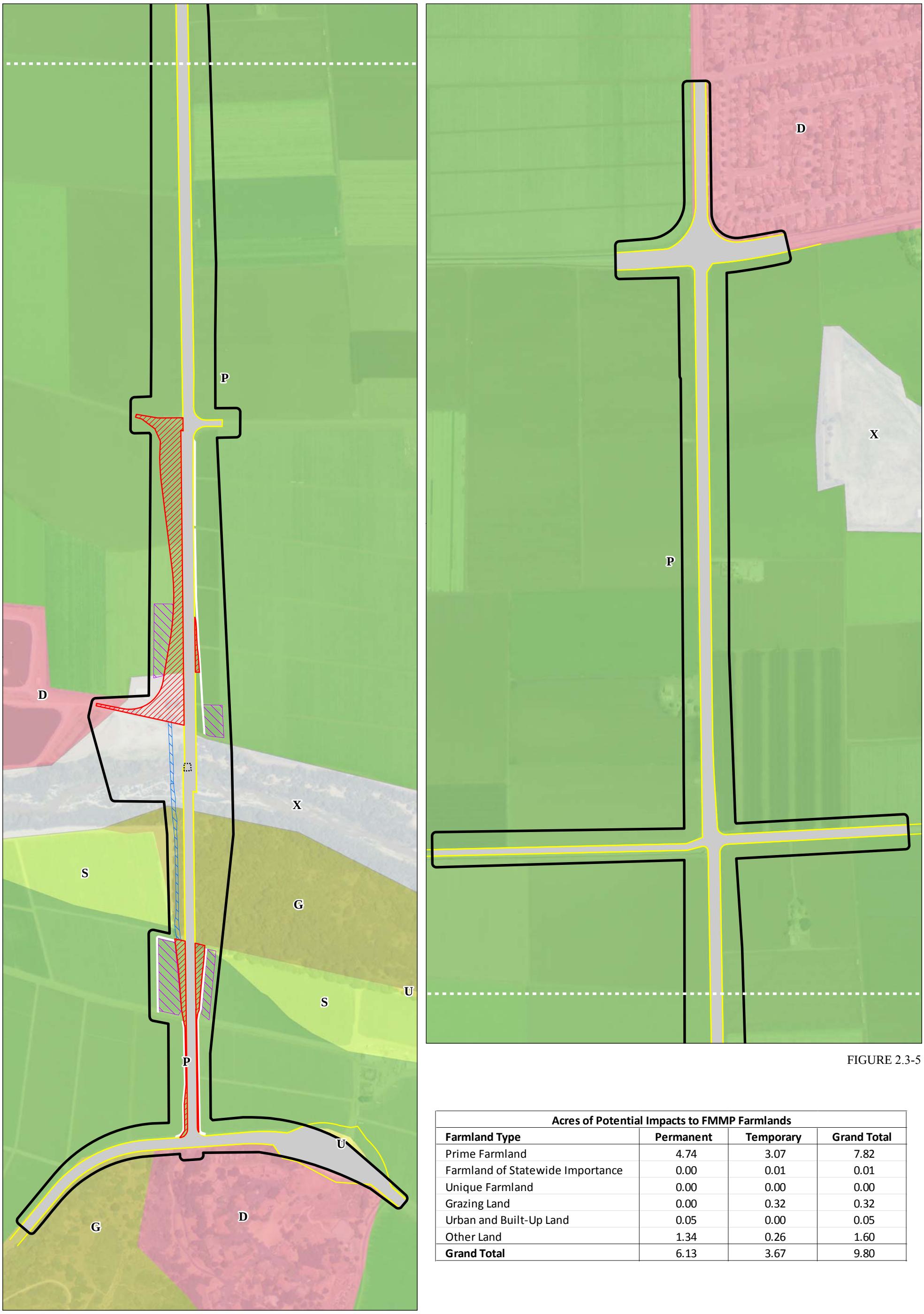

FIGURE 2.3-5

Acres of Potential Impacts to FMMP Farmlands			
Farmland Type	**Permanent**	**Temporary**	**Grand Total**
Prime Farmland	4.74	3.07	7.82
Farmland of Statewide Importance	0.00	0.01	0.01
Unique Farmland	0.00	0.00	0.00
Grazing Land	0.00	0.32	0.32
Urban and Built-Up Land	0.05	0.00	0.05
Other Land	1.34	0.26	1.60
Grand Total	6.13	3.67	9.80

LEGEND

- Farmlands Study Area
- Permanent Impact (6.1 ac.)

Temporary Impacts

- Construction Access (0.6 ac.)
- Staging Area (3.1 ac.)
- Existing Right-of-way
- Regraded Farm Access Road (1.0 ac.)
- Existing Bridge

FMMP Farmlands

- P Prime Farmland
- S Farmland of Statewide Importance
- U Unique Farmland
- G Grazing Land
- X Other Land
- D Urban and Built-Up Land

0 275 550
FEET

Source: USDA NAIP Orthoimagery (2012). Monterey County FMMP (2010).

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Potential Farmland Impacts - Alternative 2

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2.3.3.3 Preferred Alternative

Permanent impacts associated with implementation of the Preferred Alternative would primarily be limited to the edge of the existing roadway due to the widening of the existing road. Since none of the affected parcels would be bisected by the project, all would remain practical for agricultural uses. In coordination with the NRCS, a Farmland Conversion Impact Rating for Corridor-Type Projects form (NRCS-CPA-106) was completed to determine the relative value of farmland that is subject to the FPPA in the project location on a numerical scale. The results are shown in Table 2.3.2, and the completed form is shown on Figure 2.3-6. According to the NRCS-CPA-106 form, a total of 15.73 ac of Prime Farmland and 0.01 ac of Farmland of Statewide Importance would be removed with implementation of the Preferred Alternative. The final Farmland Conversion Impact Rating for the Preferred Alternative was 85. A total score equal to or exceeding 160 points would require alternative actions to reduce adverse impacts to farmlands. The linear strip of farmland impacts would not affect the existing agricultural operations, and the Farmland Conversion Impact Rating of 85 points falls below the 160 points required to reduce impacts. Nevertheless, because the County of Monterey is one of California's top agricultural producers, any loss of important farmland is required to be mitigated. Measure AG-1 requires the removal of prime agricultural topsoil from the study area and its exportation to a suitable location identified by the Ag Land Trust, and requires farmland impacts to be mitigated at a 1:1 ratio, which may be accomplished by payment of a fee to the Ag Land Trust to solely be used for the purposes of acquiring agricultural land and/or agricultural conservation easements to reduce potential impacts to Prime Farmland and Farmland of Statewide Importance.

Table 2.3.2 Farmland Conversion by Alternative

Alternatives	Land Converted (ac)	Prime and Unique Farmland (ac)	Farmland of Statewide Importance	Percent of Farmland That Would be Impacted by the Alternative Relative to Total Acres of Farmland in the County	Farmland Conversion Impact Rating
Preferred	15.74	15.73	0.01	0.00%	85
2	4.74	4.74	0.00	0.00%	119[1]

[1] Although the Preferred Alternative impacts more acres of Prime Farmland than Alternative 2, the Preferred Alternative received a lower Land Evaluation Score because it covers an overall larger area of land with a greater amount of poorer soils than Alternative 2. Therefore, when the Storie Index ratings were averaged, the Preferred Alternative resulted in a lower average score. For example, the Preferred Alternative covers 10 soil map units ranging in the Storie Index from 0 to 98 with an average score of 51. In comparison, Alternative 2 only covers the two best soil map units ranging in the Storie Index from 88 to 98 with an average score of 89.

ac = acres

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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 3/12/14	4. Sheet 1 of 1
1. Name of Project Davis Road Bridge & Road Widening Project	5. Federal Agency Involved Federal Highway Administration	
2. Type of Project Bridge Replacement and Road Widening	6. County and State Monterey County, California	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 3/12/14	2. Person Completing Form Ken Oster
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☒ NO ☐		4. Acres Irrigated 232,969 Average Farm Size 1,108
5. Major Crop(s) Lettuce, Broccoli, Grapes	6. Farmable Land in Government Jurisdiction Acres: 311,052 % 14.6	7. Amount of Farmland As Defined in FPPA Acres: 236,142 % 11.1
8. Name Of Land Evaluation System Used CA Revised Storie Index	9. Name of Local Site Assessment System None	10. Date Land Evaluation Returned by NRCS 3/13/14

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment			
	Pref. Alt.	Alt. 2	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	15.74	4.74		
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0		
C. Total Acres In Corridor	98.91	98.91		
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	15.73	4.74		
B. Total Acres Statewide And Local Important Farmland	0.01	0		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.000	0.000		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	No Data	No Data		
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)*	51	89		
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	15		
2. Perimeter in Nonurban Use — 10	10	10		
3. Percent Of Corridor Being Farmed — 20	1	0		
4. Protection Provided By State And Local Government — 20	3	0		
5. Size of Present Farm Unit Compared To Average — 10	0	0		
6. Creation Of Nonfarmable Farmland — 25	0	0		
7. Availability Of Farm Support Services — 5	5	5		
8. On-Farm Investments — 20	0	0		
9. Effects Of Conversion On Farm Support Services — 25	0	0		
10. Compatibility With Existing Agricultural Use — 10	0	0		
TOTAL CORRIDOR ASSESSMENT POINTS — 160	34	30	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	51	89	0	0
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	34	30	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	85	119	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

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

FIGURE 2.3-6 (sheet 1)

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

NRCS-CPA-106 Form

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CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

FIGURE 2.3-6 (sheet 2)

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

NRCS-CPA-106 Form

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Under Measure AG-1, approximately 24,000 cubic yards of prime agricultural topsoil would be exported from the project site to a receiving area approximately 10 mi northwest of the project site. Exporting the topsoil to a receiving area would require approximately 100 truck trips per day for a total of 22 days during construction operations. Trucks used to export the topsoil would be limited to the hours from 9:00 a.m. to 3:00 p.m. to avoid peak daily traffic periods. Because the trucks exporting the topsoil would not impact peak traffic periods and would be limited in duration (i.e., 22 days during the construction period), impacts associated with the implementation of Measure AG-1 would not be adverse.

There are two agricultural conservation easements that will be permanently impacted by the Preferred Alternative; their Assessor's Parcel Numbers (APNs) and acres impacted are shown in Table 2.3.3 and on Figure 2.3-3.

Table 2.3.3 Agricultural Conservation Easements within the Study Area

APN under Agriculture Easements	Conservation Easement Document No.	Acres Impacted	Allowances for Road Widening
207-031-004	2001032384	0.00[1]	No
207-031-005	2001013353	0.55	No
207-031-006		0.04	No
207-031-007		0.02	No
207-031-008	2001032383	0.78	No

Source: *Farmland Analysis* (May 2014).
[1] The 0.00 value indicates this easement would not be impacted by the project.
APN = Assessor's Parcel Number

Therefore, the Preferred Alternative is inconsistent with the existing agricultural conservation easements for APNs 207-031-005, 207-031-006, 207-031-007, and 207-031-008). Measure AG-2, which requires written permission from the Grantees of the agricultural conservation easements to acquire land, would reduce potential impacts to agricultural conservation easements.

Alternative 2

Permanent impacts associated with implementation of Alternative 2 would primarily be limited to the edge of the existing roadway due to the construction of the bridge and the widening of the existing roadway where Davis Road and Reservation Road converge. As shown in Table 2.3.2, a total of 4.74 ac of Prime and Unique Farmland would be removed with the implementation of Alternative 2. Alternative 2 would not result in permanent impacts to any Farmlands of Statewide Importance. The final Farmland Conversion Impact Rating for Alternative 2 was 119. The linear strip of

farmland impacts would not affect the existing agricultural operations, and the farmland conversion impact rating of 119 points falls below the 160 points required to reduce impacts. Nevertheless, because the County of Monterey is one of California's top agricultural producers, any loss of important farmland is required to be mitigated. Measure AG-1 requires the removal of prime agricultural topsoil from the study area and its exportation to a suitable location identified by the Ag Land Trust, and requires farmland impacts to be mitigated at a 1:1 ratio, which may be accomplished by payment of a fee to the Ag Land Trust to solely be used for the purposes of acquiring agricultural land and/or agricultural conservation easements to reduce potential impacts to Prime Farmland and Farmland of Statewide Importance.

2.3.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be incorporated to avoid, minimize, and/or mitigate adverse impacts of the Build Alternatives to farmlands.

2.3.4.1 Mitigation Measures

AG-1 **Agricultural Land Preservation:** Prior to the start of construction, the Monterey County Department of Public Works shall ensure that all permanent impacts to farmlands be mitigated in the following ways:

- The project plans and specifications shall state that the Contractor shall stockpile all agricultural topsoil that is removed as part of the bridge replacement and road widening and export it to a suitable location identified by the Ag Land Trust to be used to create new farmland; and
- Agricultural land currently under a conservation easement and being impacted by the project shall be preserved at a 1:1 ratio with agricultural land of equivalent farming capability. This shall be accomplished by payment of a fee to the Ag Land Trust, which would be used solely for the purpose of acquiring agricultural land and/or agricultural conservation easements to protect equivalent farmland. The protected farmland shall be located in the Greater Salinas Area. Documentation of the fee payment shall be submitted to the Resource Management Agency Planning Department.

AG-2 **Agricultural Easement Land:** Prior to construction, the Monterey County Department of Public Works shall obtain written permission from the Grantees of Agricultural Conservation Easement Document Nos. 2001013353, and 2001032383 to acquire land for the purpose of widening Davis Road. The above mentioned Agricultural

Conservation Easements shall be revised and re-recorded to reflect the new geographic boundaries of the Agricultural Conservation Easement areas after implementation of the proposed project.

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2.4 Community Impacts

2.4.1 Community Character and Cohesion

2.4.1.1 Regulatory Setting

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

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

2.4.1.2 Affected Environment

Socioeconomic and demographic data for the project area are based on 2010 United States Census data (United States Department of Commerce, Bureau of Census 2010). The study area for the proposed project lies in three tracts from the 2010 Census: Census Tracts 15.00, 16.00, and 106.06 (refer to Figure 2.4-1). For context and comparison, information for certain topics is also provided at the county level.

The project area is located in an unincorporated portion of Monterey County (County) in the lower Salinas River Valley within an extensive rural agricultural landscape. Low-density residential uses in the City of Salinas border the north of the project area and in the south along Reservation Road. Several homesteads along Davis Road are adjacent to the project area. In general, the project area and surrounding land are characterized by active agricultural lands with a low population density.

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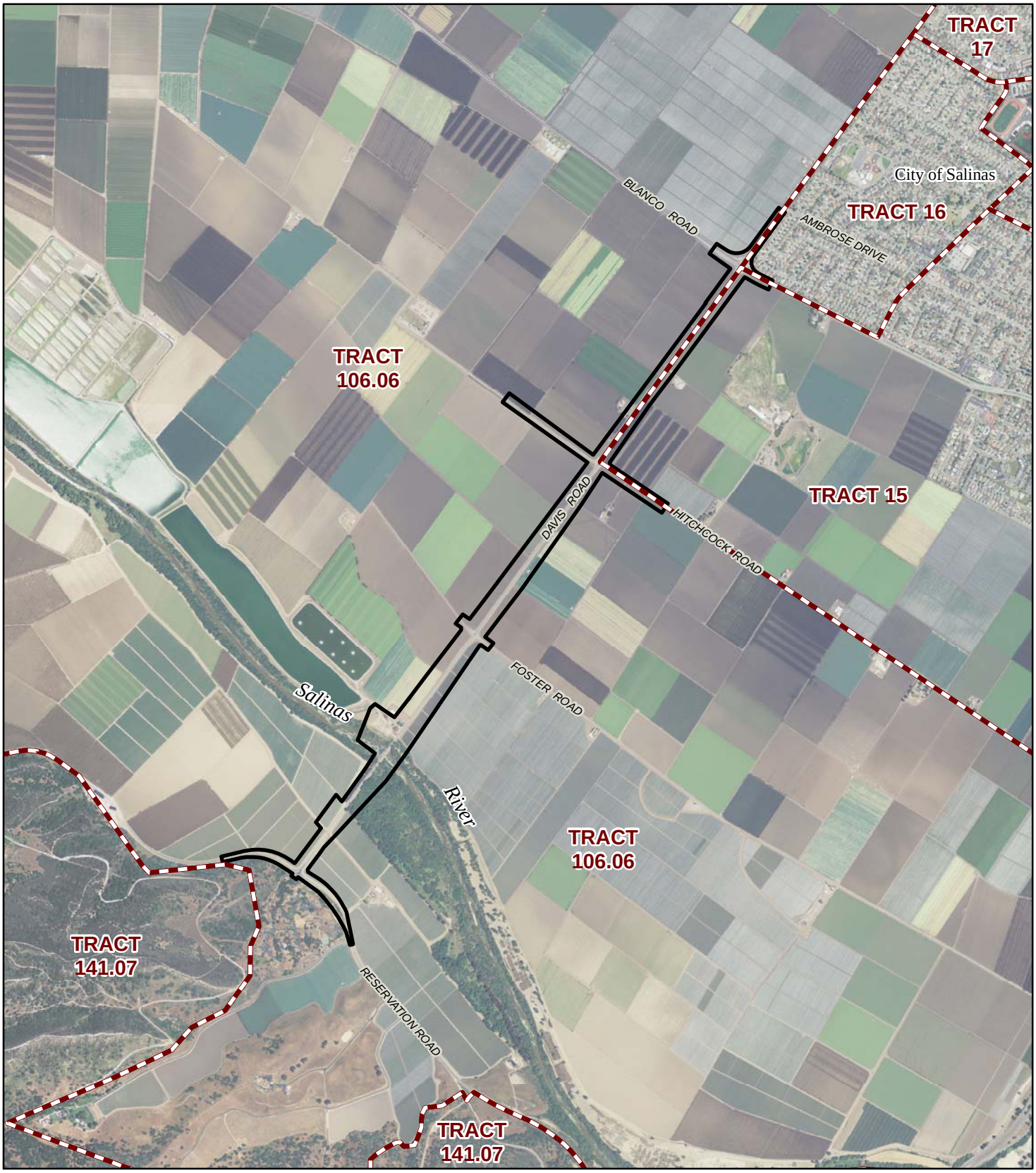

LEGEND

Project Area

Census Tract Boundary

N

0 1000 2000

FEET

SOURCE: US Census Bureau (2010); USDA NAIP Imagery (04/2012).

FIGURE 2.4-1

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Census Tracts

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Community Cohesion

Community cohesion is the degree to which residents have a sense of belonging to their neighborhood, a level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time. Elements of community cohesion can be found in the demographic data used to profile communities from the 2010 United States Census. Some specific indicators of community cohesion, as described in the California Department of Transportation (Caltrans) *Community Impact Assessment Environmental Handbook*, Volume 4 (October 2011), include ethnicity, household size, housing tenure, and whether the population is dependent on mass transit.

Indicators of a community with a high degree of cohesion include ethnic similarity, high rates of homeownership, long-term residency, households of two or more people, and a high percentage of elderly residents. Residential communities often form homeowners associations, which serve the purpose of controlling the appearance of the community and managing any common areas. Due to the rural/ agricultural nature of the proposed project area, no homeowners associations exist within the project area.

The methodology for evaluating community cohesion involves comparing relevant census data sets in the project area to similar countywide data to determine if the census tracts within the County exhibit higher degrees of ethnic homogeneity, higher homeownership rates, larger household sizes, and higher percentages of elderly and long-term residents than the County. The following discussion presents the level of community cohesion measured in the relevant census tracts.

Ethnicity

In general, homogeneity of the population contributes to higher levels of cohesion. Communities that are ethnically homogeneous often speak the same language, hold similar beliefs, and share a common culture, and are therefore more likely to engage in social interaction on a routine basis.

As shown in Table 2.4.1, racial minorities[1] (non-white) comprise a larger share of the population in Census Tract 106.06 than in the County. A larger portion of the population in Census Tract 15.00 is comprised of whites than in the County.

[1] Racial minorities include Black, American Indian/Alaskan native, Asian, Native Hawaiian and other Pacific Islander, and Other.

Table 2.4.1 Ethnic Composition of Monterey County and Census Tracts

Jurisdiction	Percentage[1]						
	White (%)	Black (%)	American Indian/ Alaska Native (%)	Asian (%)	Native Hawaiian and Other Pacific Islander (%)	Other (%)	Hispanic[2] (%)
County							
Monterey County	55.6	3.1	1.3	6.1	0.5	28.3	55.4
Project Area Census Tracts							
Census Tract 15.00	66.1	1.6	1.1	7.7	0.3	17.2	37.7
Census Tract 106.06	47.7	1.0	1.3	7.4	0.2	38.9	74.8

Source: United States Census Bureau, 2010 Census.

[1] Percentages do not add up to 100 percent because the White, Black, American Indian and Alaska Native, Asian, Hawaiian and Pacific Islander, and Other categories include persons identified with one race only; the Hispanic category overlaps with other categories.

[2] The Census Bureau recognizes Hispanic heritage as an ethnic group rather than as a separate race. If the Hispanic group is added to other racial groups, the total may exceed the total population.

As shown in Table 2.4.1, Hispanics comprise a larger share of the population in Census Tract 106.06 than in the County. In Census Tract 15.00, Hispanics comprise a smaller portion of the population compared to the County.

Housing Occupancy

Communities with a high percentage of owner-occupied residences are typically more cohesive because their population tends to be less mobile. Because they have a financial stake in their communities, homeowners often take a greater interest in what is happening in their communities than renters do. This means they often have a stronger sense of belonging to their communities.

As shown in Table 2.4.2, the percentage of owner-occupied residences in Census Tract 106.06 is higher than in the County. In Census Tract 15.00, more than half of the residences are occupied by renters, which is a higher percentage of renter-occupied residences than in the County.

Housing Tenure

Communities with a high percentage of long-term residents are typically more cohesive because a greater proportion of the population has had time to establish social networks and develop an identity with the community. The Census Bureau provides data regarding the year that each householder moved into their current housing unit. For this analysis, households that moved into their current residences in 1999 or earlier are considered long-term residents because they have lived in their current residences for more than 10 years.

Table 2.4.2 Housing Profile for Monterey County and Project Area Census Tracts

Profile Element	Monterey County	Census Tract 15.00	Census Tract 106.06
Total Housing Units	139,048	2,687	1,648
Housing Units Occupied	125,946 (90.6%)	2,509 (93.4%)	1,549 (94%)
Owner-Occupied Housing Units	64,077 (50.9%)	1,149 (45.8%)	1,549 (59.5%)
Renter-Occupied Housing Units	61,869 (49.1%)	1,360 (54.2%)	628 (40.5%)
Year Householder Moved Into Unit[1]			
2008 or later[2]	37,736 (30.1%)	1,022 (41.5%)	665 (44.9%)
2000–2007[3]	41,810 (33.3%)	411 (16.7%)	304 (20.5%)
1990–1999	22,911 (18.3%)	383 (15.5%)	282 (19%)
1980–1989	11,668 (9.3%)	174 (15.9%)	75 (5.1%)
1970–1979	6,068 (4.8%)	393 (15.9%)	75 (5.1%)
1969 or earlier	5,253 (4.2%)	82 (3.3%)	48 (3.2%)

Source: United States Census Bureau, 2010 Census.

[1] Year householder moved into unit data from Monterey County is based on the United States Census Bureau American Community Service (ACS), American Community Survey 1-year. Census Tracts 15.00 and 106.06 are based on the 2006–2010 ACS American Community Survey 5-Year Estimates. The numbers presented are based on a sample and therefore are subject to sampling variability and may not add up correctly.

[2] Data for Census Tract 15.00 and 106.06 represent occupancy in 2005 or later.

[3] Data for Census Tracts 15.00 and 106.06 represent occupancy from 2000–2004.

N/A = Not Applicable

As shown in Table 2.4.2, the majority of people in Monterey County moved into their residences between 2000 and 2007. The majority of people in Census Tract 15.00 and Census Tract 106.06 moved into their residences in 2008 or later. On average, the residents in the census tracts have lived in their homes for a shorter amount of time than the residents in the County.

Household Size

In general, communities with a high percentage of families with children are more cohesive than communities comprised of largely single people. This appears to be because children tend to establish friendships with other children in their communities. The social networks of children often lead to the establishment of friendships and affiliations among parents in the communities. Although the Census Bureau does not provide specific data regarding the number of children present in each household, it does provide data regarding the number of persons per household, which can serve as a proxy for households with children.

As shown in Table 2.4.3, the average household size is approximately 3.15 persons in the County, 2.26 persons in Census Tract 15.00, and 4.06 persons in Census Tract 106.06. Census Tract 106.06 has a higher amount of persons per household than the County.

Table 2.4.3 Average Household Size in Monterey County and Project Area Census Tracts

Jurisdiction	Average Household Size (persons)
Monterey County	3.15
Census Tract 15.00	2.26
Census Tract 106.06	4.06

Source: United States Census Bureau, 2010 Census.

Age

In general, communities with a high percentage of elderly residents (65 years or older) tend to demonstrate a greater social commitment to their communities. This is because the elderly population, which includes retirees, often tends to be more active in the community because they have more time available for volunteering and participating in social organizations.

As shown in Table 2.4.4, the percentage of elderly residents in the County is approximately 10.7 percent. The percentage of elderly residents in Census Tract 15.00 is approximately 18.3 percent. The percentage of elderly residents in Census Tract 106.06 is approximately 6.4 percent. The percentage of elderly residents in Census Tract 15.00 is higher than in the County.

Table 2.4.4 Age Distribution for Monterey County and Project Area Census Tracts

Jurisdiction	Median Age (years)	Percentage		
		Population Younger Than 20 Years Old	Population 20–64 Years Old	Population Older Than 64 Years Old
County				
Monterey County	32.9	30.1%	59.2%	10.7%
Project Area Census Tracts				
Census Tract 15.00	40.8	24%	57.7%	18.3%
Census Tract 106.06	28.7	35.6%	58%	6.4%

Source: United States Census Bureau, 2010 Census.

Summary

As described above, each of the Census Tracts in the project area exhibits one or more community cohesion indicators in comparison to the overall County population. Census Tract 15.00 has a higher percentage of elderly residents than the County; therefore, Census Tract 15.00 demonstrated one community cohesion indicator compared to the County population. Census Tract 106.06 had more homogeneity, a higher number of owner-occupied residences, and a larger household size than the

County. The community character and cohesion indicators were all relatively close between the census tracts and the County. Based on these factors and due to the rural, agricultural nature of the area, the project area exhibits a relatively low degree of community character and cohesion.

Employment

Table 2.4.5 provides information regarding the civilian labor force in the Census Tracts and in the County, including the number of employed and unemployed persons and the unemployment rate. As shown in Table 2.4.5, Census Tract 15.00 had less than half of the unemployment rate of the County. Census Tract 106.06 had a higher unemployment rate than the County.

Table 2.4.5 Project Area Employment

Area	Employment Status			
	Civilian Labor Force (persons)	Employed (persons)	Unemployed (persons)	Unemployment Rate (%)
County				
Monterey	196,234	176,225	20,009	10.2%
Project Area Census Tracts				
Census Tract 15.00	2,600	2,469	131	5%
Census Tract 106.06	2,538	2,176	362	14.3%

Source: United States Census Bureau, 2006-2010 American Community Survey

Community Facilities

A list is provided below that includes the community facilities (i.e., public and private schools, and parks and recreational facilities) within 0.5 mile (mi) of the project area that were considered in the evaluation of potential effects to community facilities:

- University Park Elementary School
- Hartnell Neighborhood Park
- Monterey County Animal Services
- Salinas Animal Services

2.4.1.3 Environmental Consequences

Temporary Impacts

No Build Alternative

The No Build Alternative would not result in the construction of any of the proposed improvements and therefore would not result in adverse temporary impacts to community character and cohesion.

Build Alternatives

During the proposed bridge replacement phase of the Build Alternatives, Davis Road would be closed to traffic at the Salinas River. Traffic would be rerouted onto Blanco Road and Reservation Road to State Route 68 (SR-68) (South Main Street). Blanco Road through Foster Road would only be open to local traffic. Construction activities would include detour signage and other information to advise the traveling public of the road closures. None of the community facilities within 0.5 mi of the project area would be adversely affected by the temporary road closures or other construction-related activities. Construction of the Build Alternatives would not require the use of land from any community facilities and therefore would not affect nearby community activities. Due to the road closures, the Build Alternatives would result in temporary disruptions in access to the project area and would require the preparation of a Traffic Control and Safety Assurance Plan (Measure T-1 in Section 2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities). In addition, since the project area is considered to have a relatively low degree of community character and cohesion, and construction activities would be temporary in nature, the Build Alternatives would not result in any adverse short-term construction effects on community character and cohesion.

Permanent Impacts

No Build Alternative

The No Build Alternative would not result in construction of any of the proposed project improvements and therefore would not result in adverse permanent impacts to community character and cohesion.

Build Alternatives

None of the community facilities that are within 0.5 mi of the project area would experience adverse long-term impacts from operation of the Build Alternatives. Operation of the Build Alternatives would not require the use of land from any community facilities and therefore would not affect nearby community activities.

The Preferred Alternative and Alternative 2 would include a Class II bicycle lane along Davis Road. The Preferred Alternative – Design Variation would include a two-way cycle track along the east side of Davis Road. The inclusion of either the Class II bicycle lanes or the two-way cycle track would enhance connectivity to the City of Salinas and other bicycle facilities throughout the County for cyclists. The existing bridge would be replaced with a longer bridge that would provide the traveling public a safe, all-weather crossing over the Salinas River. Additionally, the

Preferred Alternative would increase the efficiency of the existing circulation system by widening Davis Road from two lanes to four lanes, thus improving local circulation and safety. Alternative 2 would keep Davis Road as a two-lane roadway and would only improve the crossing over the Salinas River. Overall, the Build Alternatives would improve the existing transportation facility without dividing or otherwise adversely affecting the character of the area. Therefore, the Build Alternatives would not result in permanent adverse effects on community character and cohesion.

Refer to Appendix B for an evaluation of University Park Elementary School and Hartnell Neighborhood Park relative to the requirements of Section 4(f).

2.4.1.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measure would reduce potential impacts to community character and cohesion:

- Measure T-1 in Section 2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities

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2.5 Utilities/Emergency Services

2.5.1 Affected Environment

This section provides a description of existing utilities and emergency services. This discussion focuses on services and utilities within the right of way (ROW) or close enough to the ROW to be affected by the Build Alternatives. While services and utilities are generally provided in large service areas, this discussion focuses on services and service providers within the project area.

2.5.1.1 Emergency Services

Fire Protection Services

Fire protection and emergency medical services for the project area are provided by the Monterey County Regional Fire Protection District (MCRFPD).

MCRFPD service area covers approximately 361 square miles (sq mi), including rural areas surrounding the City of Salinas and east of the Cities of Marina and Seaside. The service area extends south past Carmel Valley and east to the community of Chualar. MCRFPD provides ambulance services to the Carmel Valley residents. In the 2010 to 2011 fiscal year, 59 percent of the calls for service were medical emergency calls, totaling just over 1,200 calls. MCRFPD participates in mutual aid throughout the State and maintains automatic aid agreements with all surrounding fire protection providers, including the City of Salinas and other local, State, and federal fire protection providers.[1]

The station that serves the project area is the Toro Station (Station 1), which is located at 19900 Portola Drive. The station is approximately 1.8 miles (mi) to the southeast of the project area.

Police Protection Services

Police protection in the project area is provided by the Monterey County Sheriff's Office Enforcement Bureau-Patrol Division (Patrol Division).

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[1] Local Agency Formation Commission of Monterey County. 2012. 2012 Municipal Service Review and Sphere of Influence Update: Districts Providing Fire Protection and Emergency Medical Services in Monterey County. Last accessed September 19, 2014 from: http://www.co.monterey.ca.us/lafco/2012/April%202012/Apr%2027%202012%20Final%20Fire%20MSR%20Public%20Review%20Post%20Hearing%20incl%20changes.pdf.

The Patrol Division provides police protection and emergency-related response services to a population of approximately 110,000 individuals located in unincorporated Monterey County, and covers an area of 3,325 sq mi. The Patrol Division operates out of three stations: the Central, Coastal, and South County Patrol Stations. The Central Patrol Station is the largest and busiest of the three stations, covers approximately 1,400 sq mi, and provides police protection for the project area. The station is located at 1414 Natividad Road in Salinas, approximately 3.7 mi northeast of the project area.[1]

2.5.1.2 Existing Utility Facilities

Within the study area, local utility facilities include power distribution systems, gas distribution pipelines, and telecommunication systems. The following utility companies provide services in the study area or are close enough to potentially be affected by the proposed project:

- **American Telephone & Telegraph (AT&T):** Telecommunication services
- **Pacific Gas and Electric (PG&E):** Gas and electric services
- **Comcast:** Cable television services
- **City of Salinas Public Works Department (SPWD):** Wastewater treatment services
- **Waste Management Inc.:** Solid waste disposal services
- **California Utilities Service, Inc. (CUS):** Wastewater collection and treatment services
- **California Water Service:** Water services

2.5.2 Environmental Consequences

2.5.2.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary adverse impacts related to utilities or emergency services.

[1] Monterey County Sheriff's Office. Enforcement Bureau-Patrol Division. Last accessed September 17, 2014, from http://www.co.monterey.ca.us/sheriff/patrol.htm.

Build Alternatives

Emergency Services

Implementation of the Build Alternatives would require the partial closure of Davis Road during construction. During bridge construction for the Preferred Alternative, Davis Road would be closed from Foster Road to Reservation Road. Davis Road north of Foster Road would only be open to local traffic. Alternative 2 would only include the closure of Davis Road from Foster Road to Reservation Road during bridge construction. The Build Alternatives would re-route traffic on Blanco Road and Reservation Road to State Route 68 (SR-68) (South Main Street). Measure T-1 in Section 2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, includes the implementation of a Traffic Control and Safety Assurance Plan to reduce impacts from the aforementioned closures. Elements in the Plan include, but are not limited to, advanced warning signs of construction activities, installation of detour signs, published notices of road closures, maintenance of access for emergency vehicles and private property, and advance notice to local emergency service providers of the timing, location, and duration of construction activities. Through advanced coordination, implementation of Measure T-1 would minimize temporary delays to emergency service providers; therefore, impacts to emergency services would not be adverse for the Build Alternatives.

Utilities

Utilities can be affected in three ways during project construction: (1) relocation, (2) removal, and (3) protection in-place. The utility facilities that could potentially be affected during construction of the Build Alternatives are listed in Table 2.5.1. An updated utility search would be conducted during final design to determine all utility conflicts that would require protection in-place or relocation. The utility relocations described below may result in temporary service disruptions to some utility users in the vicinity of those relocations. Any temporary service disruptions would be coordinated well in advance to minimize the time of disruption to the maximum extent practical. All of the work associated with relocating these facilities is located in the study area, and the new facilities would be similar to the existing facilities.

Table 2.5.1 Potential Effects on Utility Facilities During Construction

Utility Provider	Description of Facility	Project Effect (Removal, Relocation, or Protection in Place)	Preferred Alternative	Alternative 2
Pacific Gas and Electric	Overhead 60 kV electric distribution lines	A total of 250 ft along the northwest side of Davis Road and crossing over Davis Road before the existing bridge would be relocated to the edge of the proposed roadway and would connect with existing poles east along the Salinas River.[1]	●	●
	Overhead 60 kV electric distribution lines	A total of 1,200 ft along the northwest side of Davis Road, beginning at the Davis Road/Blanco Road intersection, would be relocated to the edge of the proposed roadway.[1]	●	
	Overhead 60 kV electric distribution lines	A total of 600 ft along the northwest side of Davis Road, beginning before the Davis Road/Foster Road intersection, would be relocated to the edge of the proposed roadway.[1]	●	
	Overhead 12 kV electric distribution lines	A total of 650 ft along the southern side of Foster Road, at the Davis Road/Foster Road intersection, would be relocated to the edge of the proposed roadway and outside any project improvements.	●	●
	Overhead 12 kV electric distribution lines	A total of 2,425 ft along the northwestern side of Davis Road would be relocated to the edge of the proposed roadway. The distribution line relocation would begin at the existing SIWTF driveway, cross over Davis Road before the existing bridge, and run along the southeast side of Davis Road and the bridge until ending at the Davis Road/Reservation Road intersection.	●	●
	Overhead 12 kV electric distribution lines	A total of 1,525 ft parallel to Hitchcock Road would be relocated to the edge of the proposed roadway.	●	
	Overhead 12 kV electric distribution lines	A total of 375 ft along the northwestern side of Davis Road, at the Davis Road/Hitchcock Road intersection, would be relocated to the edge of the proposed roadway.	●	
	Underground 12 kV electric distribution lines	A total of 200 ft at the Davis Road/Reservation Road intersection would be relocated to tie into the overhead pole relocations.	●	
	Overhead 12 kV electric distribution pole	One existing service pole on the east side of Davis Road, between Blanco Road and Hitchcock Road, would be relocated to the edge of the proposed roadway.	●	
	Overhead 12 kV electric distribution pole	Two existing service poles on the east side of Davis Road, between Blanco Road and Hitchcock Road, would be relocated to the edge of the proposed roadway.	●	
	Overhead 12 kV electric distribution pole	Two existing service poles on the northeast side of the Davis Road/Hitchcock Road intersection would be relocated to the edge of the proposed roadway.	●	
	Overhead 12 kV electric distribution pole	Three existing service poles on the southeast side of the Davis Road/Hitchcock Road intersection would be relocated to the edge of the proposed roadway.	●	
	Overhead 12 kV electric distribution pole	One existing service pole on the east side of Davis Road, north of the Davis Road/Foster Road intersection, would be relocated to the edge of the proposed roadway.	●	
	Overhead 12 kV electric distribution pole	One existing service pole on the east side of Davis Road, south of the Davis Road/Foster Road intersection, would be relocated to the edge of the proposed roadway.	●	
	Overhead 12 kV electric distribution pole	One existing service pole on the west side of Davis Road, just north of the existing SIWTF, would be relocated with construction of the bridge.	●	●
	Overhead 12 kV electric distribution pole	Two existing service poles on the east side of Davis Road, just north of the existing SIWTF, would be relocated with construction of the bridge.	●	●
	Underground 12-inch, high-pressure gas transmission lines	Would be relocated to the edge of the proposed roadway. The relocation would begin at the Davis Road/Foster Road intersection and run southwest to the Davis Road/Reservation Road intersection.	●	●

Table 2.5.1 Potential Effects on Utility Facilities During Construction

Utility Provider	Description of Facility	Project Effect (Removal, Relocation, or Protection in Place)	Preferred Alternative	Alternative 2
Pacific Gas and Electric	Underground 12-inch, high-pressure gas transmission lines	Would be relocated at the Davis Road/Foster Road intersection to tie in with the gas transmission relocation discussed above.	●	●
	Underground 3/4-inch gas service line	Would be relocated to tie in with the gas transmission relocations discussed above	●	●
AT&T	Underground line	May need to be relocated within the Davis Road/Blanco Road intersection.	●	
Comcast	Underground line	Would be relocated outside the edge of pavement east of Davis Road, between Hitchcock Road and Foster Road.	●	
California Utilities Service	Access Road	The access road off of Davis Road, just north of the current bridge, would be relocated to the north to allow for permanent access to wastewater treatment areas.	●	●
City of Salinas Public Works Department	Access Road	The access road off of Davis Road, just north of the current bridge (as discussed above), would be relocated to the north to allow for permanent access to the 66-inch outfall pipe.	●	●
	Monitoring wells	Would be protected in-place, and utility covers would be adjusted to grade.	●	●

Source: Pacific Gas and Electric Company (October 2014).
Source: County of Monterey Public Works Department (October 2014).
[1] Relocations are exempt from compliance with Public Utilities Commission General Order No.131-D, per Section III.B.1.c
● = Utility impacted by Build Alternative
ft = feet
kV= kilovolt
SIWTF= Salinas Industrial Wastewater Treatment Facility

2.5.2.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent adverse impacts related to utilities or emergency services. However, emergency service providers would not benefit from the use of the all-weather bridge across the Salinas River and would still be subject to possible bridge closure due to storm/high flow events.

Build Alternatives

Implementation of the Build Alternatives would allow emergency service providers to use Davis Road during storm events/high flow periods of the Salinas River where it would normally be closed. Additionally, the Preferred Alternative would improve the level of service (LOS) at intersections along Davis Road, thereby improving circulation in and around the project area. Therefore, implementation of the Build Alternatives would result in beneficial impacts to emergency service providers.

Any relocation or other effects to utility facilities under the Build Alternatives would occur during the final design or construction phase. All existing utility facilities would be permanently maintained under the Build Alternatives. The Build Alternatives would not result in increased demand for domestic water services, wastewater facilities, or solid waste disposal. Therefore, the Build Alternatives would not result in permanent adverse effects on utility facilities and providers.

2.5.3 Avoidance, Minimization, and /or Mitigation Measures

The following measures have been incorporated in the Build Alternatives to address the potential temporary adverse effects of the project construction on utilities and emergency services.

UES-1 During final design, the County of Monterey Public Works Department Project Engineer shall prepare utility relocation plans in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in-place. If relocation is necessary, the final design shall focus on relocating utilities within the right of way (ROW) or other existing public ROWs and/or easements. If relocations outside of existing ROWs or additional public ROWs and/or easements required for the project are necessary, the final design shall focus on relocating those facilities to

minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans shall be included in the project specifications.

UES-2 Prior to and during construction, the County of Monterey Public Works Department Project Engineer shall ensure the components of the utility relocation plans provided in the project specifications are properly implemented by the Construction Contractor.

UES-3 Prior to utility relocation activities, the Construction Contractor shall coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance about the date and timing of potential service disruptions.

In addition to the measures above, temporary construction impacts to emergency services would be minimized by implementation of Measure T-1 in Section 2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities. Measure T-1 requires development and implementation of a Traffic Control and Safety Assurance Plan prior to construction of the Build Alternatives to coordinate the timing, location, and duration of construction and to post advance warning of closures.

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2.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.6.1 Regulatory Setting

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

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

2.6.2 Affected Environment

This section is based on the *Traffic Impact Study* (2014) prepared for the proposed project.

2.6.2.1 Study Intersections and Road Segments

Davis Road between Reservation Road and Blanco Road is currently a two-lane road in a heavily used agricultural area that is approximately 2 miles (mi) in length and subject to use by tractors and agricultural trucks. It is common in agricultural areas for slow, wide tractors to temporarily slow traffic as the tractors travel in through lanes or on shoulders. Davis Road intersects Hitchcock Road and Foster Road and includes a bridge over the Salinas River. Figure 2.6-1 shows the existing lane configurations in the project area.

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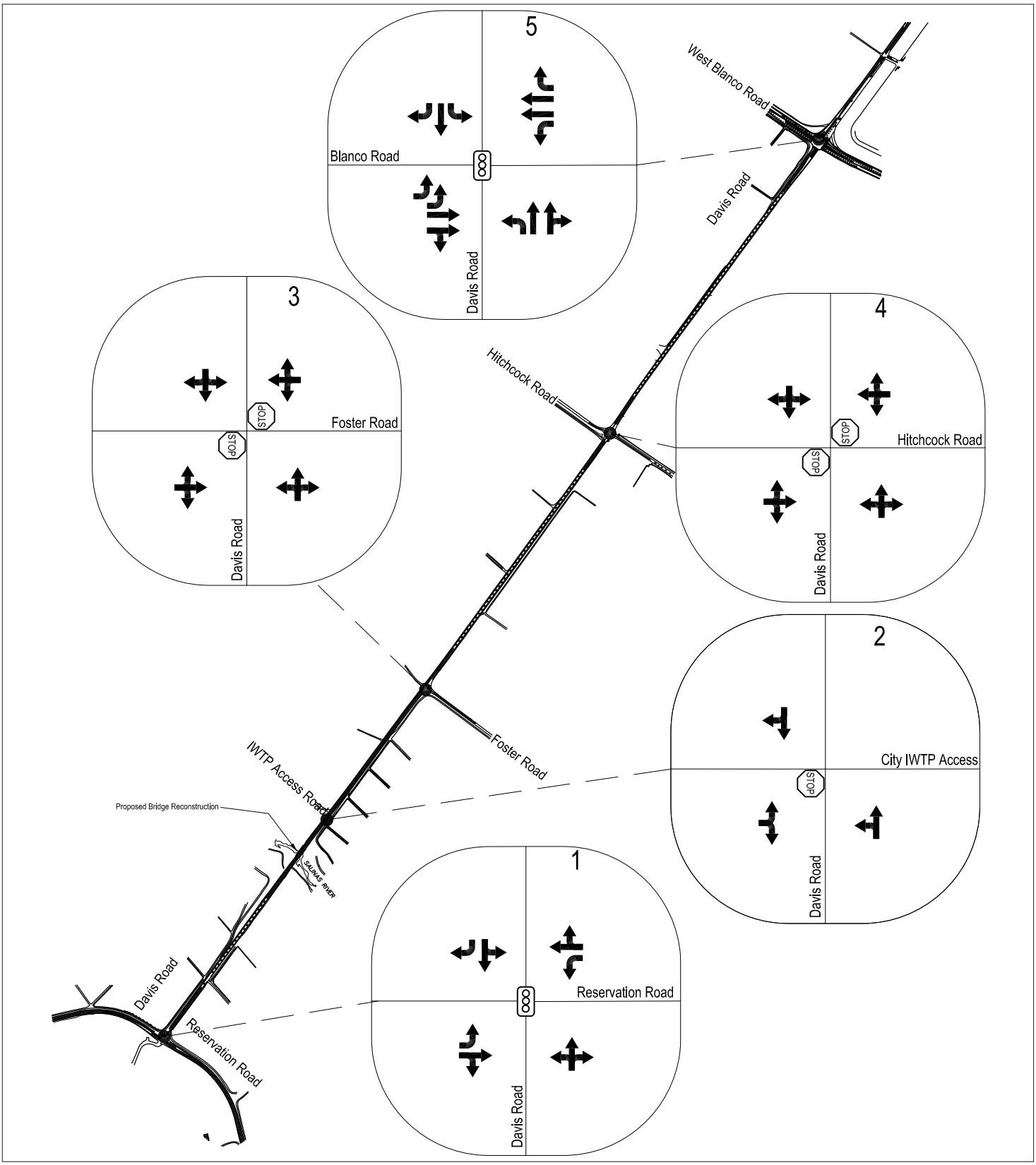

LEGEND

Signalized Intersection

Stop Sign

Direction of Travel

N

NOT TO SCALE

SOURCE: Traffic Impact Study (May 2014)

FIGURE 2.6-1

Davis Road Bridge Replacement and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Existing Lane Configurations

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The study intersections and road segments were determined based on the locations of the proposed improvements. The following intersections were analyzed:

- Davis Road and Blanco Road
- Davis Road and Hitchcock Road
- Davis Road and Foster Road
- Davis Road and the Salinas Industrial Wastewater Treatment Facility (SIWTF) driveway
- Davis Road and Reservation Road

2.6.2.2 Existing Traffic Volumes

Existing traffic volumes were determined by performing manual turning movement counts at the study intersections during the a.m. peak hours (7:00 a.m. to 9:00 a.m.) and p.m. peak hours (4:00 p.m. to 6:00 p.m.) on a weekday. The existing peak-hour turning movement volumes are presented on Figure 2.6-2.

In addition, 24-hour traffic counts were also performed on Davis Road. The count data is summarized in Table 2.6.1 below. Table 2.6.1 represents the existing condition on Davis Road (i.e., two travel lanes). On Davis Road, the existing combined northbound and southbound vehicle volumes per day between Blanco Road and Hitchcock Road, between Hitchcock Road and Foster Road, and between Foster Road and Reservation Road were 9,010, 6,027, and 5,386, respectively.

Table 2.6.1 24-Hour Traffic Volumes

Road	Segment	Northbound (vehicles/day)	Southbound (vehicles/day)	Combined (vehicles/day)
Davis Road	Between Blanco Road and Hitchcock Road	4,657	4,353	9,010
Davis Road	Between Hitchcock Road and Foster Road	2,789	3,238	6,027
Davis Road	Between Foster Road and Reservation Road	2,490	2,896	5,386

Source: *Traffic Impact Study* (2014).

2.6.2.3 Existing Levels of Service

The Transportation Research Board *Highway Capacity Manual*, defines level of service (LOS) as, "a quantitative stratification of a performance measure or measures that represent quality of service, measured on an A–F scale, with LOS A representing the best operating conditions from the traveler's perspective and LOS F the worst."

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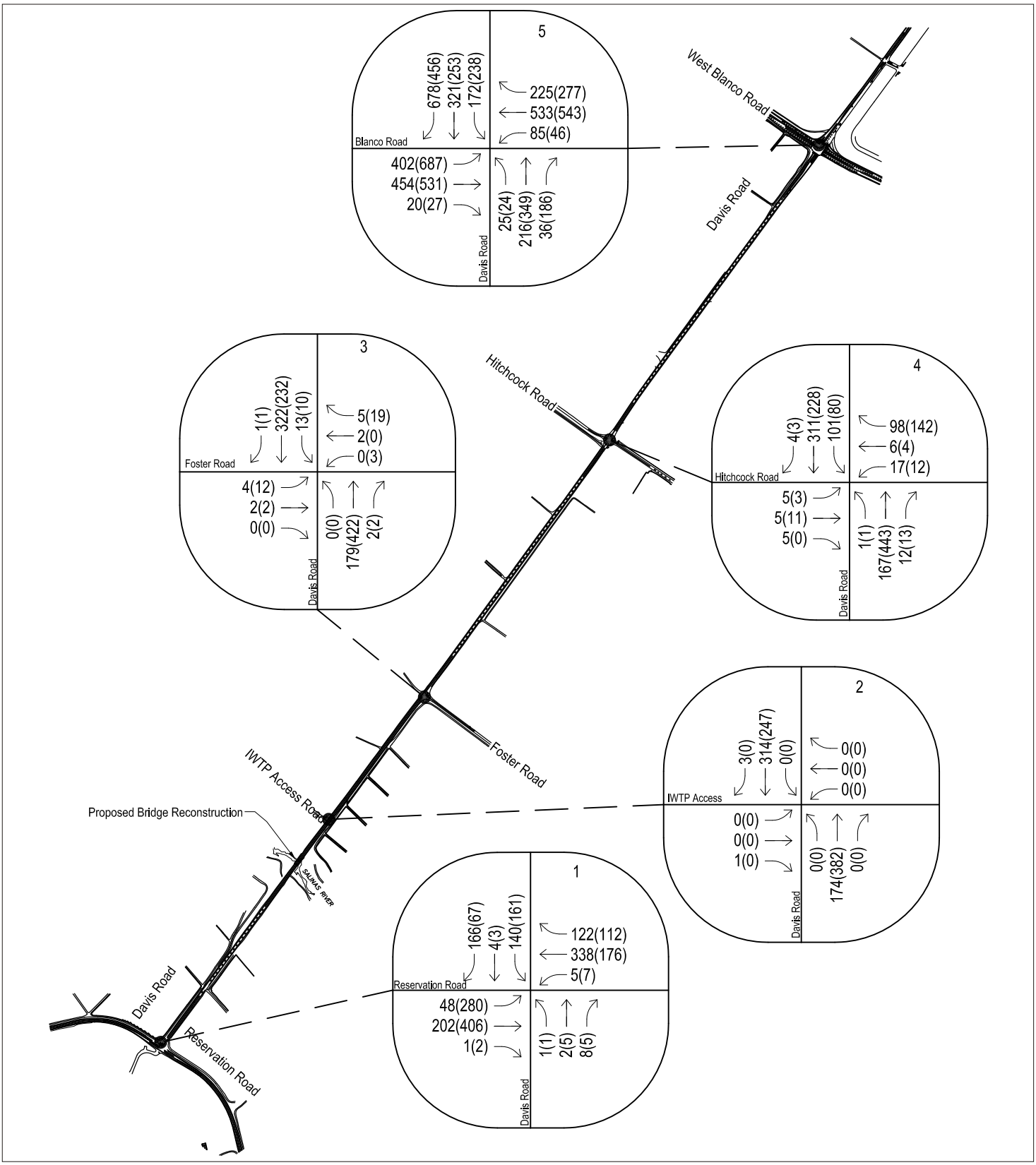

LEGEND

XX-AM Peak Hour Volumes

(YY)-PM Peak Hour Volumes

FIGURE 2.6-2

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Existing Traffic Volumes

NOT TO SCALE

SOURCE: Traffic Impact Study (May 2014)

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Motor vehicle mode LOS characteristics for both unsignalized and signalized intersections are presented on Figures 2.6-3 and 2.6-4. Motor vehicle mode LOS characteristics for uninterrupted flow two-lane highways are presented in Table 2.6.2.

Table 2.6.2 Level of Service Characteristics for Road Segments

Level of Service	Description
A	High operating speeds with a small amount of platooning
B	Speed reductions are present and platooning is noticeable.
C	Most vehicles traveling in platoons with speeds noticeably curtailed.
D	Platooning increases significantly.
E	Demand approaching capacity. Speeds seriously curtailed.
F	Demand exceeds capacity and heavy congestion exists.

Source: *Traffic Impact Study* (2014).

Existing Levels of Service for Road Segments

HCS2010 software was used to identify the LOS on roadway segments. The results of the road segment analysis indicate that Davis Road between Blanco Road and Reservation Road is currently operating at an acceptable LOS D in both directions for both a.m. and p.m. peak hours. The Monterey County General Plan establishes LOS A through LOS D as acceptable operating conditions.

Existing Intersection Levels of Service

The intersection analysis analyzed the a.m. and p.m. average time delays and LOS for the following five intersections along Davis Road: Davis Road/Blanco Road, Davis Road/Hitchcock Road, Davis Road/Foster Road, Davis Road/SIWTF driveway, and Davis Road/Reservation Road. Table 2.6.3 shows the existing a.m. and p.m. peak-hour intersection delays and LOS. For purposes of the analysis, a minimum traffic volume of one vehicle per hour was assumed for each turning movement, even if zero trips were observed in the traffic counts in order to avoid reporting unrealistic delays.

Table 2.6.3 Intersection Analysis Summary of Existing (2013) Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Davis Road/Blanco Road	Signal	35.5	D	40.8	D
Davis Road/Hitchcock Road	TWS	18.1	C	26.6	D
Davis Road/Foster Road	OWS	14.6	B	18.6	C
Davis Road/SIWTF driveway	OWS	12.7	B	13.6	B
Davis Road/Reservation Road	Signal	17.6	B	26.2	C

Source: *Traffic Impact Study* (2014).
LOS = level of service
OWS = One-Way Stop
sec = seconds
SIWTF = Salinas Industrial Wastewater Treatment Facility
TWS = Two-Way Stop

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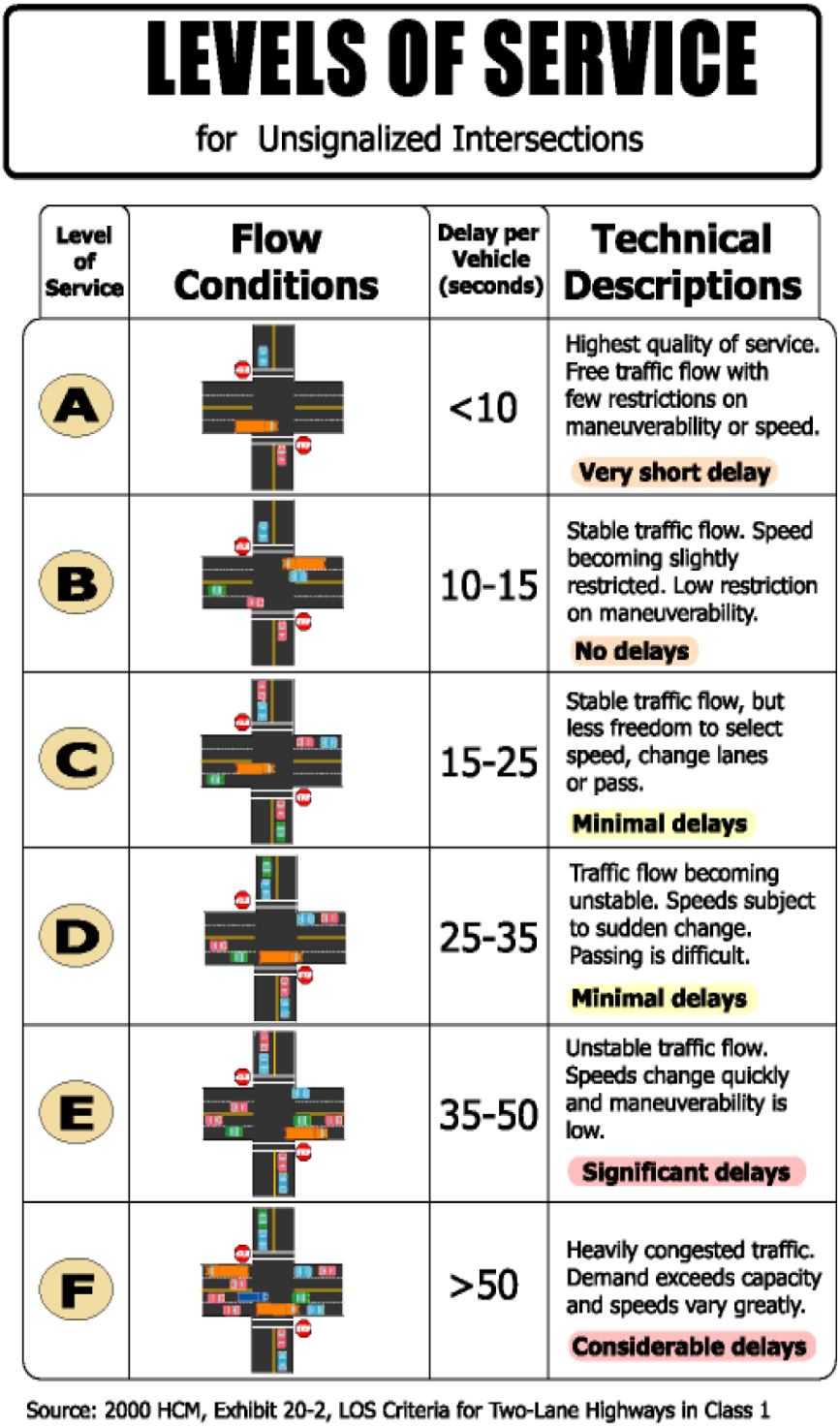

Figure 2.6-3 Levels of Service for Unsignalized Intersections

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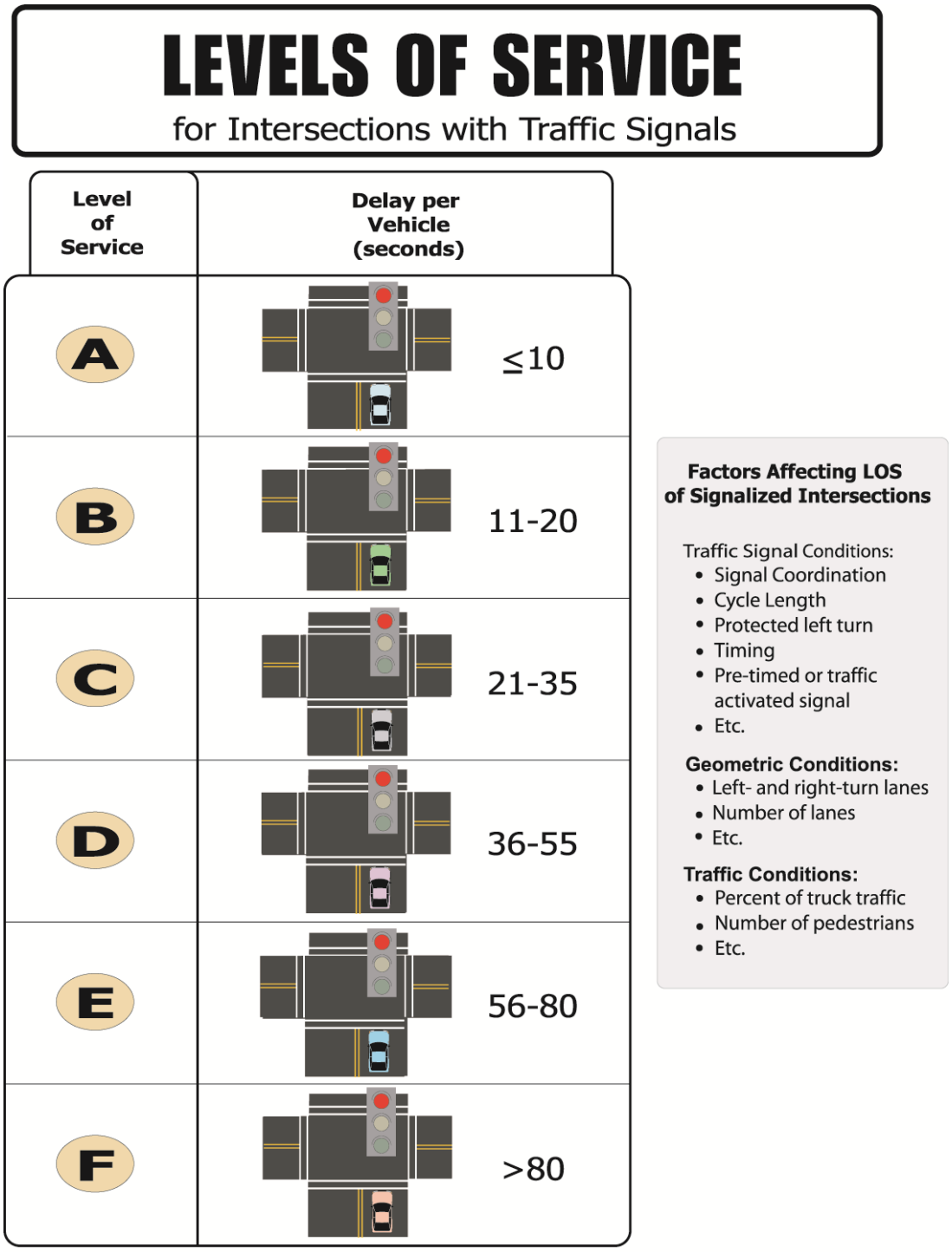

Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 2.6-4 Levels of Service of Intersections with Traffic Signals

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The results of the intersection analysis indicate that the study intersections are currently operating at acceptable levels of service:

- **Davis Road/Blanco Road:** LOS D for both a.m. and p.m. peak hours, with high traffic volumes in the eastbound left, eastbound through, southbound right, and westbound through movements
- **Davis Road/Hitchcock Road:** LOS C for the a.m. peak hour and LOS D for the p.m. peak hour, with primary turning movements for the southbound left turn and the westbound right turn
- **Davis Road/Foster Road:** LOS B for the a.m. peak hour and LOS C for the p.m. peak hour, with generally minimal turning movements at the intersection
- **Davis Road/SIWTF Driveway:** LOS B for both a.m. and p.m. peak hours, with minimal traffic volumes, up to eight heavy trucks access the site
- **Davis Road/Reservation Road:** LOS B for the a.m. peak hour and LOS C for the p.m. peak hour, with high traffic volumes in the eastbound left and southbound right movements

2.6.2.4 Bicycle and Pedestrian Facilities

There are no existing bicycle or pedestrian facilities in the project area.

2.6.3 Environmental Consequences

2.6.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any short-term traffic impacts during construction.

Build Alternatives

During construction, the Build Alternatives would result in temporary impacts to traffic circulation due to traffic diversions resulting from local road closures. During construction of the new bridge, Davis Road would be closed from Foster Road to Reservation Road. Traffic on Blanco Road and Reservation Road would be routed to State Route 68 (SR-68) (South Main Street). Davis Road north of Foster Road would only be open to local traffic. All of the road closures would be temporary and would re-open after the completion of construction. Implementation of Measure T-1 would require the preparation of a Traffic Control and Safety Assurance Plan that would reduce impacts related to detours and closures during construction.

Construction of the Build Alternatives is expected to result in the short-term generation of construction traffic during bridge construction and roadway and intersection improvements. Construction work hours are commonly between approximately 7:00 a.m. and 4:00 p.m.; therefore, construction employees would generally tend to arrive at the work site prior to the a.m. peak hour on the adjacent roadways and leave the work site prior to the p.m. peak hour on the adjacent roadways. Some construction trips generated by construction activities, such as trucks hauling import fill soils to the construction site, may generate trips during the peak hours of the adjacent streets. However, the construction trips are not expected to generate peak-hour construction traffic volumes that would create an adverse impact. Therefore, with implementation of Measure T-1 and because all impacts related to construction would be temporary, the Build Alternatives would not result in any short-term adverse traffic impacts.

2.6.3.2 Permanent Impacts

The 2040 road segment and intersection LOS and delay times were estimated using the AMBAG travel model for projected 2040 traffic volumes. As stated previously, the Monterey County General Plan establishes LOS A through LOS D as acceptable operating conditions. A traffic impact would be recognized in three different scenarios: (1) if a project decreases the LOS below LOS D at an intersection or road segment; (2) if a project exacerbates conditions at an intersection already operating at a substandard LOS by either increasing the average delay at the intersection or by causing the LOS to drop to a lower LOS (e.g., drop from LOS E to LOS F); (3) if a project exacerbates conditions on a road segment already operating at substandard LOS by either increasing the volume-to-capacity (v/c) ratio of the road segment or by causing the LOS to drop to a lower LOS.

No Build Alternative and Alternative 2

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Alternative 2 would keep Davis Road a two-lane roadway and replace the existing Davis Road Bridge. However, for purposes of traffic operational analyses on the roadway, Alternative 2 is considered to be identical to the No Build Alternative since Davis Road currently consists of two lanes. Since the No Build Alternative and Alternative 2 would not involve any roadway and/or intersection improvements, there would be no change between the existing conditions and the No Build Alternative/Alternative 2. Additionally, the LOS at the intersections and along the road would decrease while the delays at the intersections would increase throughout the project area as a result of regional growth in traffic volumes by year

2040 (refer to Table 2.6.4). Therefore, the No Build Alternative and Alternative 2 would result in permanent adverse effects related to traffic operations.

Table 2.6.4 Road Segment Analysis Summary of Davis Road Between Blanco Road and Reservation Road

Peak Hour	Existing Condition (2013)		No Build Alternative/ Alternative 2 (2013)		Preferred Alternative (2013)		Future (2040) No Build Alternative/ Alternative 2		Future (2040) with Preferred Alternative	
	Lane	LOS	Lane	LOS	Lane	LOS	Lane	LOS	Lane	LOS
AM	2	D	2	D	4	A	2	F	4	C
PM	2	D	2	D	4	A	2	E	4	B

Source: *Traffic Impact Study* (2014).
LOS = level of service

Preferred Alternative

Road Segment Analyses

The results of the road segment analysis are provided in Table 2.6.4. Compared to the existing condition (2013), the Preferred Alternative would improve the LOS from LOS D to LOS A for a.m. and p.m. peak hours during the weekday. Compared to the No Build Alternative/Alternative 2 (2013), the Preferred Alternative would improve the LOS from LOS D to LOS A for a.m. and p.m. peak hours during the weekday. Compared to the No Build Alternative/Alternative 2 in 2040, the Preferred Alternative would improve the LOS from LOS F to LOS C for a.m. peak hours and from LOS E to LOS B for p.m. peak hours. The Preferred Alternative would improve road segment LOS to operate at acceptable levels through the year 2040 compared to the No Build Alternative/Alternative 2. Therefore, the Preferred Alternative would result in long-term beneficial traffic effects.

Intersection Analyses

The results of the intersection analysis are provided in Tables 2.6.5 through 2.6.8. Refer to Table 2.6.3 for the existing intersection LOS and delay conditions. Compared to the existing conditions (2013), the Preferred Alternative would improve the LOS from D to C for the Davis Road and Blanco Road intersection for a.m. peak hours and would improve the LOS from D to C for the Davis Road and Blanco Road intersection and Davis Road and Hitchcock Road intersection for p.m. peak hours. Compared to the 2013 No Build Alternative/ Alternative 2, the Preferred Alternative would improve the LOS from D to C for the Davis Road and Blanco Road intersection for a.m. peak hours and would improve LOS from D to C for the Davis Road and Blanco Road intersection and Davis Road and Hitchcock Road intersection

Table 2.6.5 2013 Intersection Operations for the Preferred Alternative

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Davis Road/Blanco Road	Signal	34.7	C	34.8	C
Davis Road/Hitchcock Road	TWS	21.2	C	24.5	C
Davis Road/Foster Road	OWS	14.1	B	15.3	C
Davis Road/SIWTF Driveway	OWS	10.4	B	10.1	B
Davis Road/Reservation Road	Signal	11.7	B	15.4	B

Source: *Traffic Impact Study* (2014).
LOS = level of service SIWTF = Salinas Industrial Wastewater Treatment Facility
OWS = One-Way Stop TWS = Two-Way Stop
sec = seconds

Table 2.6.6 2013 Intersection Operations for the No Build Alternative/Alternative 2

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Davis Road/Blanco Road	Signal	35.5	D	40.8	D
Davis Road/Hitchcock Road	TWS	18.1	C	26.6	D
Davis Road/Foster Road	OWS	14.6	B	18.6	C
Davis Road/SIWTF Driveway	OWS	12.7	B	13.6	B
Davis Road/Reservation Road	Signal	17.6	B	26.2	C

Source: *Traffic Impact Study* (2014).
LOS = level of service SIWTF = Salinas Industrial Wastewater Treatment Facility
OWS = One-Way Stop TWS = Two-Way Stop
sec = seconds

Table 2.6.7 2040 Intersection Operations for the No Build Alternative/Alternative 2

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Davis Road/Blanco Road	Signal	254.2	F	113.3	F
Davis Road/Hitchcock Road	TWS	[1]	F	[1]	F
Davis Road/Foster Road	OWS	[1]	F	[1]	F
Davis Road/SIWTF Driveway	OWS	715.4	F	120.5	F
Davis Road/Reservation Road	Signal	575.5	F	222.1	F

Source: *Traffic Impact Study* (2014).
[1] Delay exceeds calculable range
LOS = level of service SIWTF = Salinas Industrial Wastewater Treatment Facility
OWS = One-Way Stop TWS = Two-Way Stop
sec = seconds

Table 2.6.8 2040 Intersection Operations for the Preferred Alternative

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Davis Road/Blanco Road	Signal	240.3	F	77.0	E
Davis Road/Hitchcock Road	TWS	[1]	F	[1]	F
Davis Road/Foster Road	OWS	[1]	F	470.4	F
Davis Road/SIWTF Driveway	OWS[2]	32.5	D	16.0	C
Davis Road/Reservation Road	Signal	87.3	F	32.5	C

Source: *Traffic Impact Study* (2014).
[1] Delay exceeds calculable range
[2] Right-in/right-out only
LOS = level of service SIWTF = Salinas Industrial Wastewater Treatment Facility
OWS = One-Way Stop TWS = Two-Way Stop
sec = seconds

for p.m. peak hours. In addition, compared to the existing conditions (2013) and the 2013 No Build Alternative/ Alternative 2, the delays at the intersections would decrease for both a.m. and p.m. peak hours (refer to Tables 2.6.5 and 2.6.6).

Due to regional growth in traffic volumes, by the year 2040, all of the intersections are expected to operate at LOS F. Even with implementation of the Preferred Alternative, the LOS would decrease to an unacceptable LOS in Monterey County (less than LOS D). In 2040, with implementation of the No Build Alternative/ Alternative 2, the Davis Road/Blanco Road, Davis Road/SIWTF driveway, and Davis Road/Reservation Road intersections would have delays of 254.2 seconds, 715.4 seconds, and 575.5 seconds, respectively (refer to Table 2.6.7). However, in 2040, with implementation of the Preferred Alternative, the delays at the Davis Road/Blanco Road, Davis Road/SIWTF driveway, and Davis Road/Reservation Road intersections would be reduced to 240.3 seconds, 32.5 seconds, and 87.3 seconds, respectively (refer to Table 2.6.8). Therefore, the Preferred Alternative would result in a substantial reduction in delays as compared to the 2040 No Build Alternative/ Alternative 2. Even though the intersections eventually would operate at substandard LOS, the Preferred Alternative would still provide a considerable improvement in traffic conditions. The Preferred Alternative would reduce the average delay per vehicle at the study intersections and improve intersection operations; therefore, the Preferred Alternative would result in long-term beneficial traffic effects.

A roundabout at the intersection of Davis Road and Blanco Road was analyzed as part of the *Traffic Impact Study*. The analysis concluded that the roundabout would operate at LOS F with an average delay of 612 seconds for a.m. peak hours and 265 seconds for p.m. peak hours by the year 2040. Because a roundabout would not improve traffic operations (i.e., traffic delays and LOS), it was not included as part of

the Build Alternatives. In addition, the roundabout option would result in additional farmland impacts due to the need for a larger development area.

In addition to the above discussion of LOS and delay, Davis Road between Blanco Road and Reservation Road is in an agricultural area and frequently used by tractors and agricultural trucks. It is common in agricultural areas for slow, wide tractors to temporarily slow traffic as the tractors travel in through lanes or on the shoulders. The Preferred Alternative could potentially improve traffic flow by providing a second travel lane for non-agricultural vehicles to pass tractors. In addition, agricultural traffic may at times need to cross from one side of Davis Road to the other. Since the Preferred Alternative is not proposing to construct a median, the current ability of tractors to cross the road is not expected to be impacted, although the distance to cross will be increased to four lanes.

Bicycle and Pedestrian Facilities

The Preferred Alternative and Alternative 2 would include an 8 ft wide paved shoulder along both sides of Davis Road that would be striped as Class II bicycle lanes. The Preferred Alternative – Design Variation would include a two-way cycle track on the east side of Davis Road. None of the Build Alternatives would include pedestrian facilities.

2.6.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures will address short-term adverse traffic impacts during construction of the Preferred Alternative.

T-1 **Traffic Control and Safety Assurance Plan:** Prior to construction, the County of Monterey (County) shall require the Construction Contractor to prepare a Traffic Control and Safety Assurance Plan in accordance with professional engineering standards and submit the plan to the County for review and approval. Elements of the Plan shall include, but are not limited to, the following:

- Post advanced warning signs of construction activities to allow motorists to select alternative routes.
- Install detour signs on the alternative routes around the closed road segment.
- Publish notices of the location and timing of road closures in local newspapers and on available websites to allow motorists to select alternative routes.

- Maintain access for emergency vehicles at all times. Provide advance notification to local police, fire, and emergency service providers at least 2 weeks in advance of any road closures or detours due to the timing, location, and duration of construction activities that could affect the movement of emergency vehicles on roadways in the area.
- Maintain access for private driveways.

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2.7 Visual/Aesthetics

2.7.1 Regulatory Setting

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

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

2.7.2 Affected Environment

The information in this section is based on the *Visual Impact Assessment* (VIA) (2014) that was prepared for the proposed project.

2.7.2.1 Methodology

This section summarizes the methodology used to assess the potential visual impacts of the proposed project. The methods used to assess the potential visual impacts are based on guidelines published by the FHWA and described in Chapter 27 of the California Department of Transportation (Caltrans) Standard Environmental Reference (SER). The process involves examining the proposed project's existing visual setting and determining where the proposed project is visible from and who is likely to see it. The character of the landscape and levels of visual quality within the project study area are then determined for both pre- and post-project conditions. Visual quality is assessed by examining the landscape characteristics of vividness, intactness, and unity as defined in the FHWA guidebook.

2.7.2.2 Existing Visual Setting

The regional landscape establishes the general visual environment of the project area. The character of the landscape in the vicinity of the project study area is rural. The land use is agriculture, and large cultivated fields flank both sides of Davis Road between Blanco Road and Reservation Road. Overhead utility lines supported by

wood poles line the west side of Davis Road. The character of the roadside landscape is common throughout the area. Unique or outstanding landscape elements are generally absent, except for the Salinas River Corridor. The Salinas River runs perpendicular to Davis Road. The river itself is mostly unseen; however, it flows within a channel that contains numerous trees and shrubs. The vegetation in the Salinas River Channel creates a unique visual feature in a primarily agricultural landscape.

State Route 68 (SR-68) is the closest designated State Scenic Highway to the project study area (approximately 2 miles [mi] east). Because of this distance, viewers on SR-68 would not have views of the Davis Road Bridge.

2.7.2.3 Visual Quality

Visual quality is evaluated by identifying the vividness, intactness, and unity of the landscape in the vicinity of the project area.

- **Vividness:** Vividness is the visual power or memorability of landscape components as they combine in distinctive visual patterns.
- **Intactness:** Intactness is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements.
- **Unity:** Unity is the visual coherence and compositional harmony of the landscape considered as a whole.

Currently, the level of vividness within the project area is moderate. The one landscape feature that is especially memorable is the Salinas River Corridor. Otherwise, the agricultural character of the area is common and consistent. The intactness of the project area is moderate, mainly due to a general absence of visually encroaching or strongly incongruent features. The unity of the landscape within the project area is fairly high due to the pervasive nature of farm-related land uses and associated development that extend for long distances along both sides of Davis Road; however, these land uses have completely replaced the natural landscape. Based on these characteristics, existing visual quality within the project study area is at a moderate level.

2.7.2.4 Viewer Groups and Response

Any person with a view of the project study area would be considered a viewer. Views of the proposed bridge occur primarily from Davis Road as motorists approach the Salinas River. Potentially affected viewers within the project area are motorists on Davis Road between Blanco Road and Reservation Road. Affected viewers include

agricultural workers, local residents, truckers, and others, including bicyclists, traveling through the area.

Viewer response is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes brought about by physical changes as a result of implementing the proposed project. The resulting level of visual impact is determined by combining the severity of resource changes with the degree to which people are likely to be affected by those changes.

2.7.2.5 Viewpoints

Four separate viewpoints were identified to depict Davis Road after implementation of either the Preferred Alternative or Alternative 2 (refer to Figure 2.7-1). (Please note that the figures cited in this section are provided following the last page of text in this section.)

Viewpoint 1

Viewpoint 1 is on Davis Road near Foster Road. The direction of the view is northeast toward Blanco Road. As shown on Figure 2.7-2a, existing crop fields border both sides of a two-lane Davis Road. Overhead utilities are along the left side of Davis Road. Farm-related buildings are seen farther down Davis Road, while concentrated development is visible in the distance.

Viewpoint 2

Viewpoint 2 is on Davis Road, south of Foster Road, near the northeast end of the existing bridge over the Salinas River. The direction of the view is southwest toward Reservation Road. As shown on Figures 2.7-3a and 2.7-6a, the two-lane Davis Road slopes down to the short, existing Davis Road Bridge over the Salinas River, then rises on the other side. Riparian vegetation marks the Salinas River corridor. A row of large, dark green eucalyptus trees can be seen along the west side of Davis Road beyond the riparian vegetation. In addition, overhead utility lines are along the west side of Davis Road.

Viewpoint 3

Viewpoint 3 is on Davis Road near the southwest end of the existing bridge. The direction of the view is northeast toward Blanco Road. As shown on Figures 2.7-4a and 2.7-7a, the view of existing conditions, the two-lane road is seen sloping down to meet the bridge. The riparian band along the river and row of large eucalyptus trees along the west (left) and east (right) sides of the road are visible. The eucalyptus tree

on the east side of the road represents the last in a row of eucalyptus trees that runs perpendicular to Davis Road.

Viewpoint 4

Viewpoint 4 is on Davis Road near Reservation Road. The direction of the view is southwest. As shown on Figure 2.7-5a, Davis Road ends at Reservation Road. Crop fields border both sides of Davis Road. Bluffs rise from just beyond Reservation Road and enclose the view in this direction. A few private residences are seen at the top of the bluff. Overhead utilities lines are along the east side of Davis Road. A streetlight is located on the northwest corner of the intersection, and two smaller light standards border the entrance road at Reservation Road to the private residential development known as The Bluffs.

2.7.3 Environmental Consequences

2.7.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made; therefore, the No Build Alternative would not result in any short-term visual effects.

Build Alternatives

During the proposed bridge replacement phase of the Build Alternatives, Davis Road would be closed to traffic at the Salinas River. Traffic on Blanco Road and Reservation Road would be routed to SR-68 (South Main Street). Blanco Road through Foster Road would only be open to local traffic. As a result, motorists would not see activities associated with construction of the new Davis Road Bridge. However, short-term visual impacts during construction activities include the removal of existing mature vegetation, grading of cut-fill slopes, construction vehicles, construction staging areas, 3-foot-high orange Environmental Sensitive Area fencing, and construction signage. The Preferred Alternative would require the removal of 44 mature trees and Alternative 2 would require the removal of 14 mature trees. The effects of vegetation clearing would create a recognizable change in the appearance of Davis Road between Blanco Road and Reservation Road, especially for the Preferred Alternative. However, for both Build Alternatives, the change would not be out of character with the existing landscape and would gradually cease over time as replacement trees mature. New trees, which are primarily riparian vegetation, can reasonably be expected to reach mature growth within several years. The Build Alternatives would have short-term temporary impacts due to construction activities;

however, these short-term visual impacts would cease after the completion of construction and would not be considered adverse.

2.7.3.2 Permanent Impacts

To assist in the assessment of the Build Alternatives' potential visual impacts, photo simulations that accurately and photorealistically depict the appearance of the Build Alternatives from four individual viewpoints were prepared. Viewpoints 1 through 4 were used for the Preferred Alternative. Alternative 2 only involves improvements on Davis Road from Foster Road to Reservation Road; therefore, only Viewpoints 2 and 3 were used for Alternative 2. The photo simulations for the viewpoints are shown on Figures 2.7-2b, 2.7-3b, 2.7-4b, 2.7-5b, 2.7-6b, and 2.7-7b.

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any long-term visual effects.

Preferred Alternative

For the Preferred Alternative, the most noticeable changes would result from replacement of the existing bridge with a longer bridge over the Salinas River, the removal of 44 trees at the bridge site, and widening Davis Road from two to four travel lanes.

After implementation of the new bridge, only the top portion of the bridge (including the deck, roadway, and side barriers) would be seen by the public. The proposed side concrete barriers along the outside edge of the bridge would obstruct visibility of the area immediately adjacent to the bridge but would only have a minimal effect on the public's view of the Salinas River and the riparian corridor. The columns underneath the bridge that support the structure would not be seen. All the trees removed would be replaced, thereby resulting in no net loss of trees. In addition, other riparian vegetation along the length of the Salinas River would remain. The widened Davis Road would have a paved cross section that would be more than twice as wide as the existing roadway. The Preferred Alternative would be in view for as long as it takes to move between Blanco Road and Reservation Road, a distance of approximately 2 mi (which would take approximately 3.5 minutes to travel at 35 miles per hour [mph]).

From Foster Road to Reservation Road, riparian vegetation along the Salinas River Channel would block the views of nearly the entire length of the Preferred

Alternative. The riparian vegetation would screen the views as motorists approach Davis Road and the bridge site from Reservation Road (refer to Figures 2.7-8a and 2.7-8b). The proposed lighting at the new bridge and streetlights at the Davis Road and Reservation Road intersection would not cast light on private development or shine in the direction of any sensitive receptors. A discussion of the visual changes in Viewpoints 1 through 4 for the Preferred Alternative is provided below.

Viewpoint 1

As shown on Figure 2.7-2b, Davis Road is shown with four travel lanes with standard width shoulders on both sides and a striped center median area. The Preferred Alternative would not create any other changes in this view.

Viewpoint 2

As shown on Figure 2.7-3b, the four-lane deck of the new bridge is noticeably higher and wider than the existing Davis Road. Due to the size, the new bridge is more exposed and is a more conspicuous structure than the existing bridge. Some riparian trees in the river channel on both sides of the new bridge are removed; however, the row of eucalyptus trees on the west side of the road remains intact.

Viewpoint 3

As shown on Figure 2.7-4b, the profile of Davis Road is shown as raised and widened to four lanes with the new four-lane bridge. The simulation shows that some trees have been removed. The eucalyptus tree on the east side of the road has been removed while the row of eucalyptus trees on the west side of the road remains.

Viewpoint 4

As shown on Figure 2.7-5b, Davis Road is shown widened to four travel lanes with standard shoulders on both sides and a striped center median area. Proposed traffic signals, streetlights, and directional signs are shown at the intersection of Davis Road and Reservation Road. The Preferred Alternative would not create any other changes in this view.

As shown in the photo simulations for Viewpoints 1 through 4 (Figures 2.7-2 through 2.7-5), the Preferred Alternative would not add any new types of roadway features to the setting but would modify and/or replace already existing facilities. Therefore, the overall character of the landscape would not change. The levels of vividness, intactness, and unity in the project area would be reduced, but not to a substantial degree since the proposed features would be consistent with the features of the existing roadway. Motorists traveling on Davis Road would likely have a neutral

reaction to the changes. Therefore, the Preferred Alternative would not result in any long-term adverse visual effects.

The Preferred Alternative – Design Variation

The Preferred Alternative – Design Variation will have a paved cross section (i.e., footprint) that would be the same as the Preferred Alternative. The primary difference would be that the Preferred Alternative – Design Variation would replace the northbound and southbound Class II bike lanes with a separate, two-way cycle track along the east side of Davis Road from Blanco Road to Reservation Road. The most noticeable change between the Preferred Alternative and the Preferred Alternative – Design Variation would be the delineators between the northbound shoulder and the two-way cycle track, which are intended to improve safety by providing a visual separation between vehicles and bicyclists. The delineators would be flexible, 3 ft tall, plastic tubular posts placed at a spacing of approximately 20 ft. The delineators would be white in color with reflective elements. The delineators would add a new vertical element to the cross section of the roadway; the levels of vividness, intactness, and unity in the project area would be reduced, but not to a substantial degree since the proposed delineators would be consistent with the features of the existing roadway. Furthermore, all other changes under the Preferred Alternative such as bridge replacement, tree removal, and roadway widening would still occur under the Preferred Alternative – Design Variation. Therefore, the Preferred Alternative – Design Variation would not change the overall character of the landscape and would not result in any long-term adverse visual effects.

Alternative 2

For Alternative 2, the most noticeable changes would result from replacement of the existing bridge with a longer bridge over the Salinas River and the removal of 14 trees in the Salinas River Channel at the bridge site. After implementation of the new bridge, only the top portion of the bridge (including the deck, roadway, and side barriers) would be seen by the public. The proposed side concrete barriers along the outside edge of the bridge would obstruct visibility of the area immediately adjacent to the bridge but would only have a minimal effect on the public's view of the Salinas River and the riparian corridor. The columns underneath the bridge that support the structure would not be seen. All the trees removed would be replaced, thereby resulting in no net loss of trees. In addition, other riparian vegetation along the length of the Salinas River would remain. Alternative 2 would be in view of traffic on Davis Road for as long as it takes traffic to approach and cross over the new bridge, a

distance of approximately 1 mi (which would take approximately 1.5 minutes to travel at 35 mph).

From Foster Road to Reservation Road, riparian vegetation in and along the Salinas River Channel would block views of nearly the entire length of the proposed bridge. The riparian vegetation would screen the views as motorists approach Davis Road and the bridge site from Reservation Road (refer to Figures 2.7-8a and 2.7-8b). Proposed lighting at the new bridge would not cast light on private development or shine in the direction of any sensitive receptors. A discussion of the visual changes per Viewpoints 2 and 3 for Alternative 2 is below.

Viewpoint 2

As shown on Figure 2.7-6b, the two-lane deck of the new bridge is noticeably higher than the existing Davis Road. The new bridge is a more conspicuous structure than the existing bridge. The simulation shows that some riparian trees in the river channel are removed; however, the row of eucalyptus trees on the west side of the road remains intact.

Viewpoint 3

The new bridge is shown on Figure 2.7-7b. The simulation shows that some trees in the Salinas River Channel are removed; however, the row of eucalyptus trees on the west side of the road remains.

As shown on the photo simulations for Viewpoints 2 and 3 (Figures 2.7-6b and 2.7-7b), Alternative 2 would not add any new types of roadway features to the setting but would replace already existing facilities. Therefore, the overall character of the landscape would not change. The levels of vividness, intactness, and unity within the project area would be reduced, but not to a substantial degree since proposed features would be consistent with features of the existing roadway. Motorists traveling on Davis Road would likely have a neutral reaction to the changes. Therefore, Alternative 2 would not result in any long-term adverse visual effects.

2.7.4 Avoidance, Minimization, and/or Mitigation Measures

There are no temporary or permanent adverse visual impacts; therefore, no avoidance, minimization, and/or mitigation measures are required.

LEGEND

Project Area

Photo Simulation Viewpoint Location

N

0 1000 2000

FEET

SOURCE: USDA NAIP Imagery (04/2012).

FIGURE 2.7-1

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Photo Simulation Viewpoint Locations

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Figure 2.7-2a: Viewpoint 1, Davis Road Looking Northeast, Existing View

Figure 2.7-2b: Viewpoint 1, Simulation of Preferred Alternative – Four-lane Roadway

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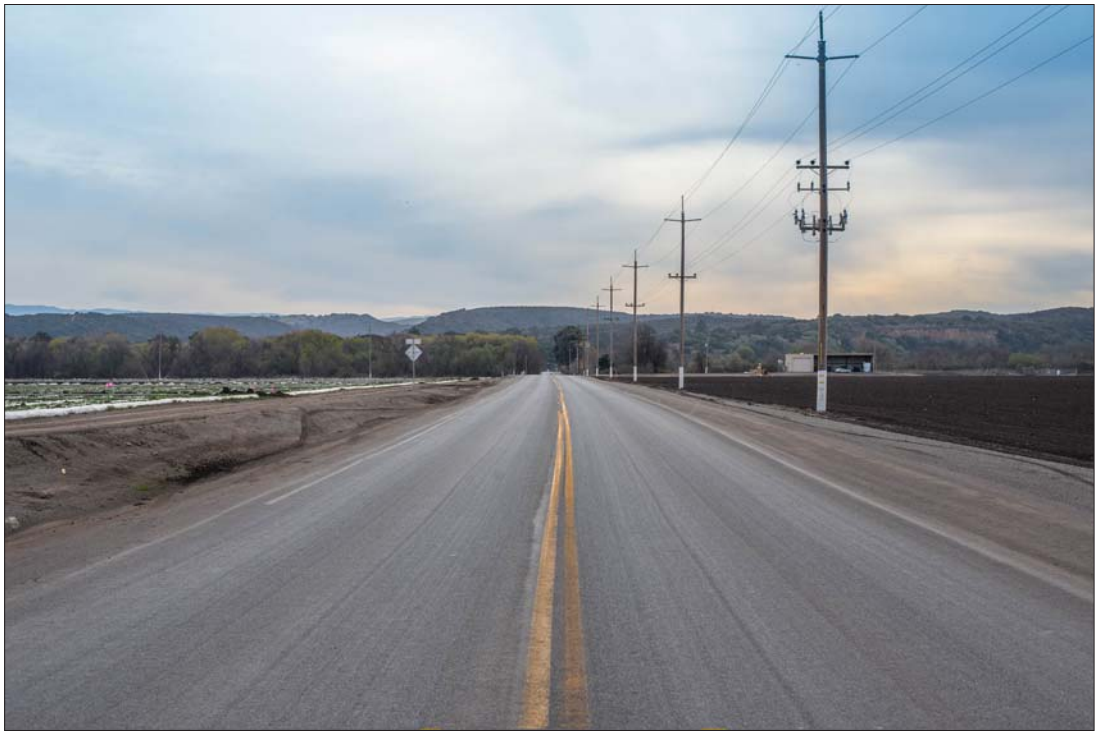

Figure 2.7-3a: Viewpoint 2, Near Proposed Bridge Site Looking Southwest, Existing View

Figure 2.7-3b: Viewpoint 2, Simulation of Preferred Alternative – Four-lane Bridge

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Figure 2.7-4a: Viewpoint 3, Near Proposed Bridge Site Looking Northeast, Existing View

Figure 2.7-4b: Viewpoint 3, Simulation of Preferred Alternative – Four-lane Bridge

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Figure 2.7-5a: Viewpoint 4, Davis Road Looking Southwest, Existing View

Figure 2.7-5b: Viewpoint 4, Simulation of Preferred Alternative – Four-lane Roadway

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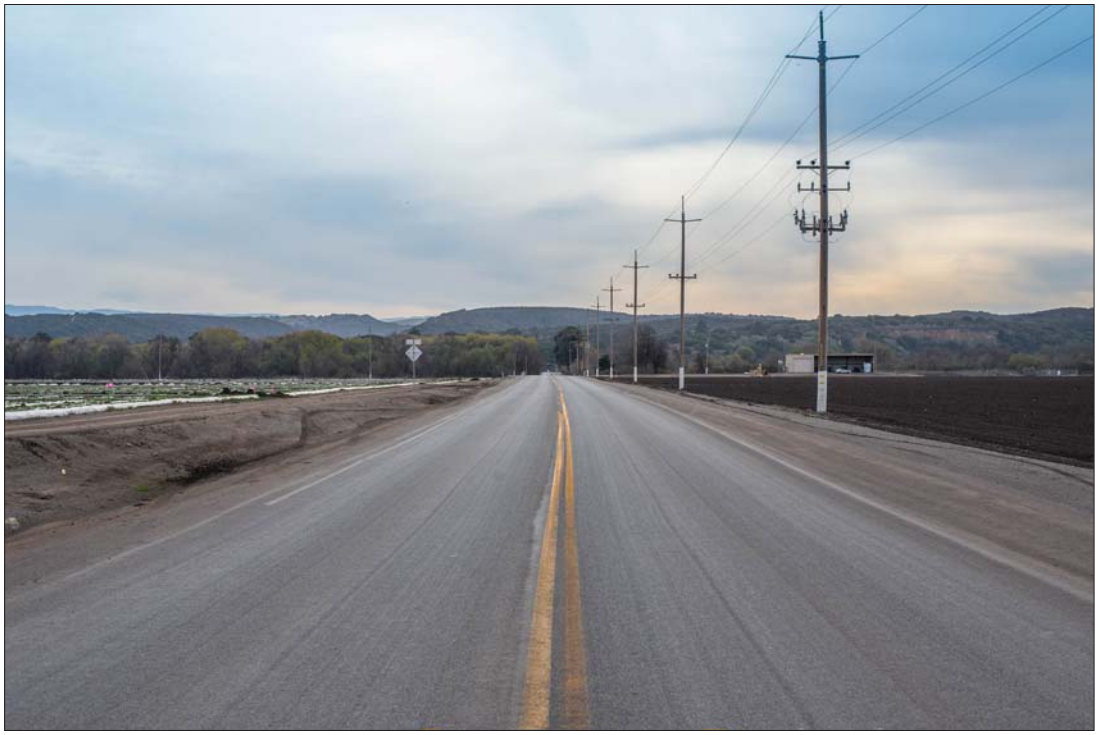

Figure 2.7-6a: Viewpoint 2, Near Proposed Bridge Site Looking Southwest, Existing View

Figure 2.7-6b: Viewpoint 2, Simulation of Alternative 2 – Two-lane Bridge

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Figure 2.7-7a: Viewpoint 3, Near Proposed Bridge Site Looking Northeast, Existing View

Figure 2.7-7b: Viewpoint 3, Simulation of Alternative 2 – Two-lane Bridge

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Figure 2.7-8a: Viewpoint 5, View Traveling West on Reservation Road Looking Toward the Site of the New Bridge

Figure 2.7-8b: Viewpoint 6, View Traveling East on Reservation Road Looking Toward the Site of the New Bridge

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2.8 Cultural Resources

2.8.1 Regulatory Setting

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 the National Register of Historic Places. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on such 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 [CFR] 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, the Federal Highway Administration (FHWA), State Historic Preservation Officer (SHPO), and the Department of Transportation went into effect for Department of Transportation projects, both state and local, with FHWA involvement. The PA implements the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department of Transportation. The FHWA's responsibilities under the PA have been assigned to the Department of Transportation as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

On January 1, 2014, the First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (2014 PA) became effective and replaced the 2004 PA.

2.8.2 Affected Environment

Cultural resources in the Area of Potential Effects (APE) were identified in the *Historic Property Survey Report* (HPSR) (2015), the *Historical Resources Evaluation Report* (HRER) (2014), the *Archaeological Survey Report* (ASR) (2014), the

Extended Phase I Report (2015), and the *Finding of No Adverse Effect* (FONAE) (2015).

2.8.2.1 Area of Potential Effects

The APE for the project was established in consultation with California Department of Transportation (Caltrans) District 5 staff and encompasses the maximum limit of any physical disturbance that may result from construction and related activities. The APE also includes the entirety of archaeological sites CA-MNT-2281H and CA-MNT-2282H, as described in more detail below. The APE was bounded to include all parcels with built environment elements whose settings may be indirectly affected by the proposed project, and consists of the bridge crossing the Salinas River, the approaches to the bridge, portions of a riparian corridor, two farmsteads (145 Davis Road and 160 Davis Road), and agricultural lands. The APE for the proposed project covers 223.44 acres (ac). The maximum depth of excavation for the Build Alternatives (i.e., the vertical APE) is variable throughout the APE. The vertical APE is: 2 feet (ft) for a new frontage road to the Salinas Industrial Wastewater Treatment Facility (SIWTF), concrete dikes, and ditches; 5 ft for bioswales, storm drain pipe, drainage inlets, and manholes; 7 ft for a retention pond adjacent to the SIWTF frontage road; 13 ft for new/relocated utility poles; approximately 40 ft to 60 ft for bridge abutments; and approximately 80 ft to 120 ft for bridge piers. Construction staging will occur within the APE.

2.8.2.2 Records Search

Three cultural resource records searches were conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University in Rohnert Park, California. The NWIC did not identify any recorded built environment resources within or adjacent to the APE. The search did not identify any archaeological cultural resources in the APE, but did identify a prehistoric archaeological site in the vicinity of the APE.

In addition to the record searches conducted at the NWIC, the following sources were consulted to yield additional information about the historical background of Monterey County, the Salinas Valley, and the APE:

- Ag Land Trust
- Multiple inventories from the California Office of Historic Preservation
- Native American Heritage Commission (NAHC)
- Monterey County Register of Historic Resources

- Monterey County Assessor's Office
- Monterey County Clerk-Recorder's Office
- Monterey County Historical Society
- John Steinbeck Branch of the Salinas Public Library
- City of Salinas Community Development Department
- California History Room at the City of Monterey Public Library
- Map Room of the Science & Engineering Library at the University of California, Santa Cruz

Native American consultation was conducted in 2010 and included sending letters to 14 Native American representatives identified by the NAHC to ask for any information or concerns regarding cultural resources within the APE. Native American consultation was updated in January 2014. The 2014 consultation included 12 local Native American representatives identified by the NAHC. Native American consultation is further discussed in Chapter 4, Comments and Coordination.

2.8.2.3 Archaeological Resources

Five pedestrian surveys of the APE were conducted between 2008 and 2014. On June 25, 2008, a pedestrian survey of the original APE was conducted. On October 12, 2009, a pedestrian survey was conducted to re-examine the area previously surveyed in the 2008 survey as well as new portions of the APE that were added with the expansion of the APE. Multiple surveys were required due to expansion of the project boundary and parcels with limited access. A survey on July 28, 2013, included the right of way (ROW) areas within the APE that are located north of Foster Road. A pedestrian survey of all parcels within the APE that are north of the Salinas River was conducted on April 8, 2014. Those parcels that were inaccessible the day of the survey were revisited on May 1, 2014.

Two historic period archaeological sites were identified in the APE during the surveys. The first site (CA-MNT-2281H) was used as a municipal dumping facility until the 1970s and contains a surface scatter of materials, including white improved earthenware, ceramic sewer pipe, clay pipe, colorless bottle glass, green bottle glass, a milk glass container, a copper buckle, unidentified ferrous metal, wire nails, a ceramic insulator, bricks, marine shell fragments, and faunal bone.

In 2009, an Extended Phase I excavation was conducted at CA-MNT-2281H at this site as part of archaeological investigations relating to a nearby project. This investigation identified fill overlying a municipal trash dump that operated for several

decades at this location until circa 1970 and concluded that the site "is not expected to produce significant historic materials." An Extended Phase I survey was conducted in 2014 as part of the proposed project to confirm the previous findings of the 2009 investigation and to determine whether the archaeological record indicated a potentially significant association with late 19th century land use or occupation. The 2014 Extended Phase I fieldwork included both a surface survey and mechanical soil coring with subsequent laboratory analysis. The Ohlone/Costanoan-Esselen Nation (OCEN) provided tribal monitors for the duration of the Extended Phase I fieldwork.

The 2014 Extended Phase I fieldwork identified a sparse surface scatter and subsurface deposit of historic period and modern debris, marine shell, and faunal bone. Cultural materials identified include miscellaneous metal (mostly wire nails), ceramic and glass fragments, mammal bone, and mussel shell. The deposit represents a roadside debris scatter and use of the area as a municipal dump and sewage farm for several decades. The faunal bone likely represents modern deposition (e.g., from "road kill") and re-deposited prehistoric shell. The surface and subsurface deposits represent decades of deposition and fill episodes, and any evidence of early 19th century occupation or use of this site—if such evidence ever existed—would have long since been removed, disturbed, or otherwise obscured by modern deposition and disturbance. As a roadside trash scatter and 20th century municipal dump, this site represents a common resource type associated with a disturbed matrix and does not have a potentially important association with a historically significant event or person.

Since surface artifacts discovered during the 2009 and 2014 Extended Phase I fieldwork were sparse and primarily represented modern and historic debris, the previously excavated portions of CA-MNT-2281H would not contribute to the resource's potential eligibility for listing in the National Register of Historic Places (National Register), or the California Register of Historical Resources (California Register), or local register of historical resources, or to be determined historically significant by the County. However for purposes of this project only, the remainder of CA-MNT-2281H is assumed to be eligible for inclusion in the National Register. Therefore, the previously excavated portion of CA-MNT-2281H does not meet the criteria to be determined a significant resource under CEQA.

The second historic period archaeological site (CA-MNT-2282H) consisted of a moderate-to-dense scatter of historic period archaeological materials in a field of lettuce. The average density of materials at the densest spot is estimated to be

approximately 10 to 15 items per square yard. Materials noted include concrete fragments, indeterminate metal fragments, brown/green/cobalt glass, sundry and beverage bottles, ceramic tableware fragments, and window glass fragments. The site had been dislocated over time due to agricultural operations. For the purpose of the proposed project, CA-MNT-2282H is considered eligible for inclusion in the National Register and the California Register of Historical Resources (California Register). CA-MNT-2282H is a historical resource for the purposes of CEQA.

In addition to the two resources discussed above, an isolated handstone in highly disturbed soils was identified. Pursuant to Attachment 4, Properties Exempt for Evaluation of the Section 106 PA, isolated prehistoric finds consisting of fewer than three items per 100 square meters are exempt from evaluation.

2.8.2.4 Architectural Resources

An architectural field survey of the entire APE was conducted on August 12, 2013. As part of the survey, a "windshield survey" was also performed in the vicinity of the APE to obtain contextual information. The cultural resource analysis within the APE was focused on buildings that were 45 years old or older. The following three built environment cultural resources that are 45 years old or older were identified within the APE:

- A farmstead at 160 Davis Road, known as the Hitchcock-Dolan Farm, built circa 1897 (APNs 270-031-006 and 207-031-007)
- A farmstead at 145 Davis Road, built circa 1900 (APN 207-032-004)
- Salinas River Bridge (Bridge No. 44C-0068), built in 1959 and seismically retrofitted in 2002

Of the three built environment resources identified, only the Hitchcock-Dolan Farm is considered eligible for the National Register for purposes of Section 106. In order for a resource to be considered eligible for the National Register, it must be considered significant under one or more of four criteria: A (important events), B (important people), C (distinguishing construction or design characteristics), or D (scientific data potential). Additionally, an eligible property must possess historic integrity, which is the ability to convey the significant association.

The Hitchcock-Dolan Farm was previously evaluated in 2007 and was identified as appearing to have significant historical associations; however, a formal determination of eligibility for inclusion in the National Register or California Register was not made. Based on background research and field observations, the conclusions of the

previous investigation regarding the Hitchcock-Dolan Farm's significant historical associations were affirmed. However, a reexamination of the basis for the 2007 evaluation supports the following reclassification of the property's status: the Hitchcock-Dolan Farm is assumed individually eligible for inclusion in the National Register and California Register at the local level of significance under Criteria A/1 (events) and C/3 (architecture) for associations identified in the 2007 evaluation. Due to its significant historical associations and integrity, the Hitchcock-Dolan Farm is assumed to be a historical resource for the purposes of CEQA.

Based on background research and field survey, the farmstead at 145 Davis Road does not possess significant historical associations within its historic context. The farmstead at 145 Davis Road does not appear eligible, either individually or as part of a district, for inclusion in the National Register, the California Register, or a local register or inventory of historical resources, and is not a historical resource for the purposes of CEQA.

The Salinas River Bridge (Bridge No. 44C-0068) was previously evaluated as part of the California Historic Bridge Inventory – Local Agency Bridges compiled by Caltrans and was assigned a status rating of "5," indicating that it is "not eligible for listing in the National Register." Due to a lack of significance, the Salinas River Bridge is not a historical resource for the purposes of CEQA.

2.8.2.5 Discovery of Cultural Material or Human Remains

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

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains and the County Coroner shall be contacted. Pursuant to California PRC Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC, which will then notify the Most Likely Descendant (MLD). At that time, the landowner or representative will work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

2.8.3 Environmental Consequences

2.8.3.1 SHPO Consultation

The Caltrans Division of Environmental Analysis in Sacramento conducted consultation with the State Historic Preservation Officer, Julianne Polanco, for this project pursuant to the Section 106 PA. This consultation was informed by the cultural resources studies completed for the project, including an Archaeological Survey Report, Historical Resources Evaluation Report, Extended Phase I Study, and a Finding of No Adverse Effect. Based on the results of these studies, Caltrans made a finding of no adverse effect to historic properties for the project and requested SHPO concurrence for this finding. On October 12, 2015, the SHPO responded via letter to Caltrans stating that she concurred with that agency's finding of no adverse effect.

A summary of the environmental consequences to historic properties from the No Build and Build Alternatives is provided below and includes the findings of No Adverse Effect agreed to by Caltrans and the SHPO.

2.8.3.2 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary adverse impacts related to cultural resources.

Build Alternatives

The construction of the Build Alternatives could potentially result in impacts to previously undocumented cultural resources. Any such impacts during construction of the Build Alternatives would be considered permanent (not temporary) impacts of the Build Alternatives. As a result, potential impacts of the Build Alternatives on cultural resources are discussed below.

2.8.3.3 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent adverse impacts related to cultural resources.

Build Alternatives

Archaeological site CA-MNT-2281H was identified within the APE. The previously excavated portions of CA-MNT-2281H do not contribute to the resource's eligibility

for listing in the National Register; however, for purposes of this project, only the remainder of CA-MNT-2281H is assumed eligible for inclusion in the National Register. An Environmentally Sensitive Area (ESA) would be established for this area. The ESA would be protected by a 3 ft high orange fence that would prevent construction personnel and equipment from entering the potentially eligible portion of CA-MNT-2281H. Implementation of the Build Alternatives would result in ground-disturbing activities at the margins of this cultural resource site and outside of the ESA. No ground-disturbing activities would occur within the ESA; however, implementation of Measure CR-3 provided in Section 2.8.4, Avoidance, Minimization, and/or Mitigation Measures, which requires implementation of an ESA Action Plan, would reduce any potential adverse impacts to the ESA. Ground disturbance outside of the ESA would be to a depth of approximately 2 ft below the surface. With the implementation of Measure CR-3, the Section 106 determination for archaeological site CA-MNT-2281H is a Finding of No Adverse Effect without Standard Conditions.

Archaeological site CA-MNT-2282H was identified within the APE and is considered eligible for inclusion in the National Register and California Register for the purposes of this project. An ESA would be established for CA-MNT-2282H. The ESA would be protected by two signs that would warn construction personnel to stay outside of the site to avoid impacts to potential historic resources. Measure CR-3, which requires implementation of an ESA Action Plan and is outlined below in Section 2.8.4, Avoidance, Minimization, and/or Mitigation Measures, would reduce any potential adverse impacts to the archaeological site. Therefore, the Section 106 determination for archaeological site CA-MNT-2282H is a Finding of No Adverse Effect without Standard Conditions.

Although no cultural materials were identified during the Extended Phase I investigation north of the Salinas River, the potential for subsurface archaeological deposits dating from the middle to late Holocene in this portion of the Salinas Valley cannot be discounted. Because sediments with potential to contain archaeological resources occur approximately 3 ft to 13 ft below the ground surface, it is anticipated that the excavation associated with the Build Alternatives would not reach or affect the majority of these buried surfaces. However, there is still a potential for excavation and grading activities to uncover previously unidentified cultural materials. Implementation of Measures CR-1 and CR-2 provided in Section 2.8.4, Avoidance, Minimization, and/or Mitigation Measures, would reduce potential impacts to

unknown cultural resources; therefore, with implementation of Measures CR-1 and CR-2, impacts to unknown cultural resources would not be adverse.

The two Section 4(f) resource types (CA-MNT-2281H and CA-MNT-2282H) pursuant to the Department of Transportation Act (49 USC 303) discussed above are within the APE but are being excluded from the Area of Direct Impact by an ESA. Therefore, no impacts to these two Section 4(f) resources would occur (refer to Appendix B.2, Resources Evaluated Relative to the Requirements of Section 4(f)).

The Build Alternatives would encroach on the recorded boundary of the Hitchcock-Dolan Farm, an architectural resource considered eligible for inclusion in the National Register and California Register, by converting a 10 ft strip of land into the future Davis Road right-of-way. However, after implementation of the build alternatives there would still be 50 ft between the edge of the Davis Road right-of-way and the Hitchcock-Dolan Farm. Therefore, this minor change would not detract from the essential physical and character-defining features of the farm.

The Build Alternatives would also result in an increase in visual and audible effects at the Hitchcock-Dolan Farm. However, these effects would not alter or diminish the Hitchcock-Dolan Farm's integrity or alter the characteristics that qualify it for listing in the National Register. Integrity of location, setting, feeling, materials, workmanship, and association of the property would not be adversely affected. Therefore, the Section 106 determination for the Hitchcock-Dolan Farm is a Finding of No Adverse Effect without Standard Conditions.

The build alternatives would not result in an adverse effect to the Hitchcock-Dolan Farm as confirmed by the SHPO in its concurrence letter (refer to Appendix E). Therefore, Caltrans has made a preliminary de minimis determination under Section 4(f) for the minor use of the Hitchcock-Dolan Farm for the purposes of this project (refer to May 29, 2014, letter regarding Section 4(f) Coordination with Section 106 Consultation provided at the end of Appendix B).

2.8.4 Avoidance, Minimization, and/or Mitigation Measures

The measures below would avoid and/or minimize the potential impacts related to cultural resources, including the discovery of previously unknown cultural materials and human remains during construction of all four of the Build Alternatives.

CR-1 **Discovery of Cultural Resources:** If cultural materials are discovered during ground disturbance and earthmoving the Monterey County

Department of Public Works will require the Construction Contractor to divert all such activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find.

CR-2 **Discovery of Human Remains:** If human remains are discovered during ground disturbance and earthmoving, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie the remains and the County Coroner will be contacted by the person who discovered the remains. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendant (MLD). At that time, the landowner or representative will work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable should human remains, including those interred outside of formal cemeteries, be encountered.

CR-3 **Environmentally Sensitive Area Action Plan:** During the development of the Plans, Specifications, and Estimates phase, the Project Manager and/or Project Engineer will prepare an Environmentally Sensitive Area (ESA) Action Plan for the identified archaeological resources CA-MNT-2281H and CA-MNT-2282H. The ESA at site CA-MNT-2281H will be protected by placing a 3-foot-high orange fence around the ESA to prevent construction personnel from entering the site. The ESA at site CA-MNT-2282H will be protected by placing two signs to warn construction personnel to stay out of the boundary of CA-MNT-2282H. The Resident Engineer will notify the Caltrans Archaeologist and Consultant Archaeologist if an ESA breach occurs. The Caltrans Archaeologist will notify the State Historic Preservation Officer (SHPO) within 48 hours of any ESA breach and consult immediately to determine how the breach will be addressed. The ESAs will remain in force throughout the duration of the project. When construction activities are complete, the Resident Engineer and Consultant Archaeologist will coordinate to confirm that protective measures are no longer necessary and that the ESA fencing and signs can be removed.

PHYSICAL ENVIRONMENT

2.9 Hydrology and Floodplain

2.9.1 Regulatory Setting

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

To comply, the following must be analyzed:

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

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

2.9.2 Affected Environment

The information in this section is based on the *Design Hydraulic Study Report* (2013) and *Water Quality Assessment Report* (WQAR) (2014) prepared for the proposed project.

2.9.2.1 Watershed Description

The project study area is located in the northern half of the Central Coast Region and within the Salinas River Watershed. The Salinas River Watershed covers approximately 4,600 square miles (sq mi) and is the Central Coast Region's third-largest watershed. There are two subwatersheds that make up the Salinas River Watershed: the Upper Salinas River and the Lower Salinas River. The project area is located in the Lower Salinas River Subwatershed, which encompasses the area from north of Bradley to Monterey Bay and is entirely within Monterey County. The Lower Salinas River Subwatershed is part of the larger Salinas Hydrologic Unit (HU). The Salinas HU is divided into Hydrologic Areas (HAs). The project area lies

within the Salinas HU and the Lower Salinas Valley HA. The Salinas River HU includes the Monterey Peninsula and southern coastal area of Monterey Bay, the City of Salinas, agricultural and small urban centers of the Salinas Valley, and recreation developments in the upper watersheds.

The Salinas River runs through the southern portion of, and is the primary receiving water in, the project study area. The Salinas River system drains two major tributaries controlled by dams (i.e., Nacimiento River and San Antonio River). Hitchcock Road Channel is the only other hydrologic feature within the project area. Hitchcock Road Channel is a constructed agricultural drain channel running along Hitchcock Road. The Hitchcock Road Channel contains perennial flows.

Within the project area, all surface waters eventually drain into Monterey Bay and the Pacific Ocean via the Salinas River Lagoon or through the Old Salinas River (OSR) Estuary via the OSR Channel to Moss Landing Harbor.

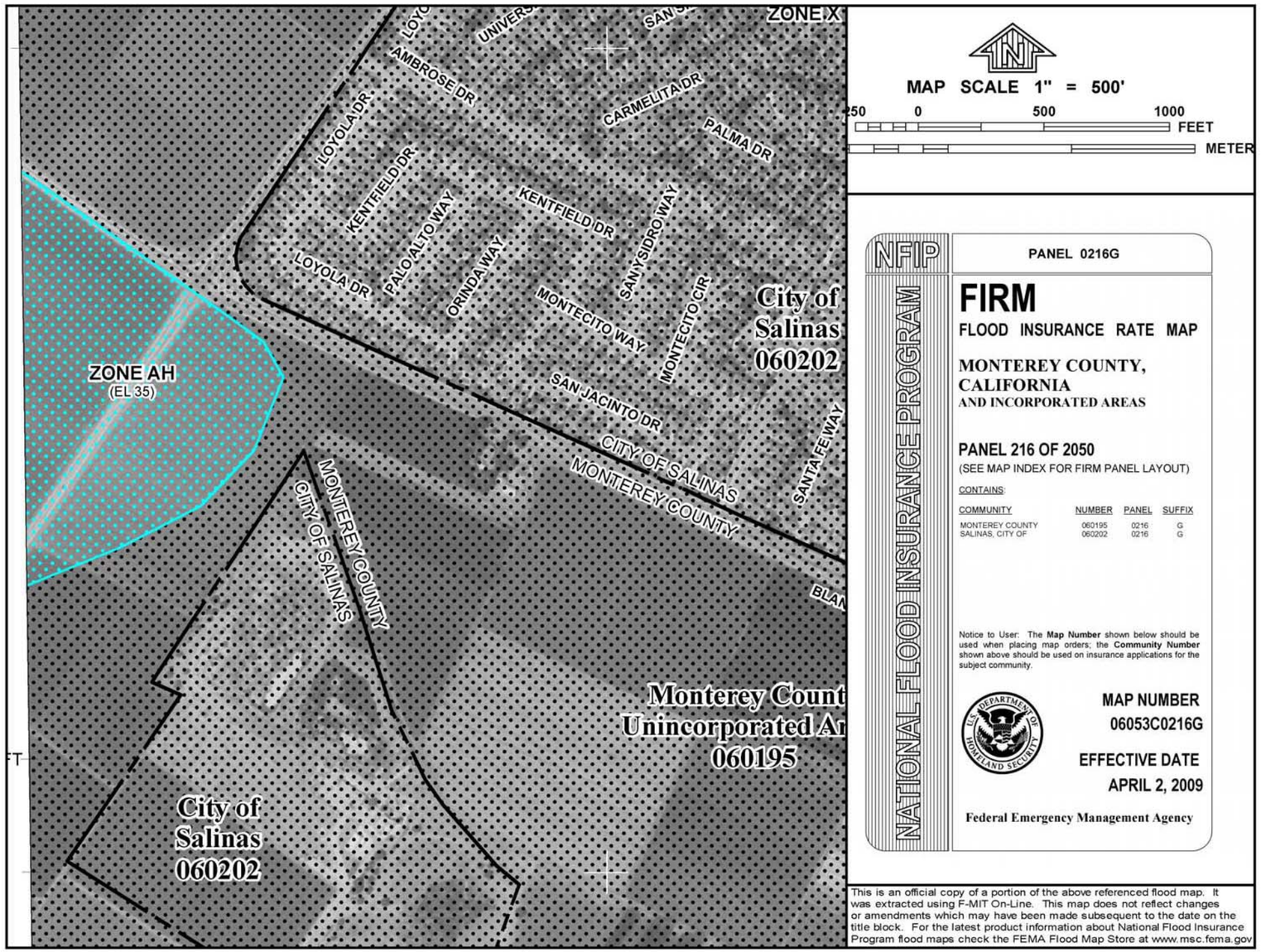
2.9.2.2 Floodplain Description

Portions of the project area are located within the 100-year and 500-year flood zones, and are within the regulatory floodway and floodplain of the Salinas River. The floodway at Davis Road Bridge is approximately 1,650 feet (ft) wide and the depth from the top-of-bank to the toe is approximately 30 ft. The existing floodplain is over 3,000 ft wide at the Davis Road Bridge and runs along Foster Road.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Nos. 06053C0215G and 06053C0216G (April 2009) show portions of the project area that are within the 100-year and 500-year flood zones (Figure 2.9-1).

Beneficial Uses

Natural and beneficial floodplain values include, but are not limited to, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge. Beneficial uses for surface waters are defined in the Central Coast Regional Water Quality Control Board (RWQCB) Basin Plan as various ways that water can be used for the benefit of people and/or wildlife. Examples of beneficial uses include municipal and domestic water supply, agricultural water supply, industrial service supplies, industrial process supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat, spawning habitat, and rare, threatened, or endangered species habitat. The Salinas River downstream of Spreckels Gage has the following beneficial uses:



Legend:

Zone X: Areas subject to 500-year flood: areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 100-year flood.

Zone AE: Floodway is the channel or stream or adjacent floodplain areas that, must be kept free of enroachment so that 100-year flood can be carried without substantial increases in flood heights.

Zone AH: Special Flood Hazard Area subject to inundation by 100-year flood with flood depths 1 to 3 feet. Base Flood Elevation determined.

FIGURE 2.9-1 (sheet 1 of 2)

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Federal Emergency Management Agency (FEMA) Floodplain Map

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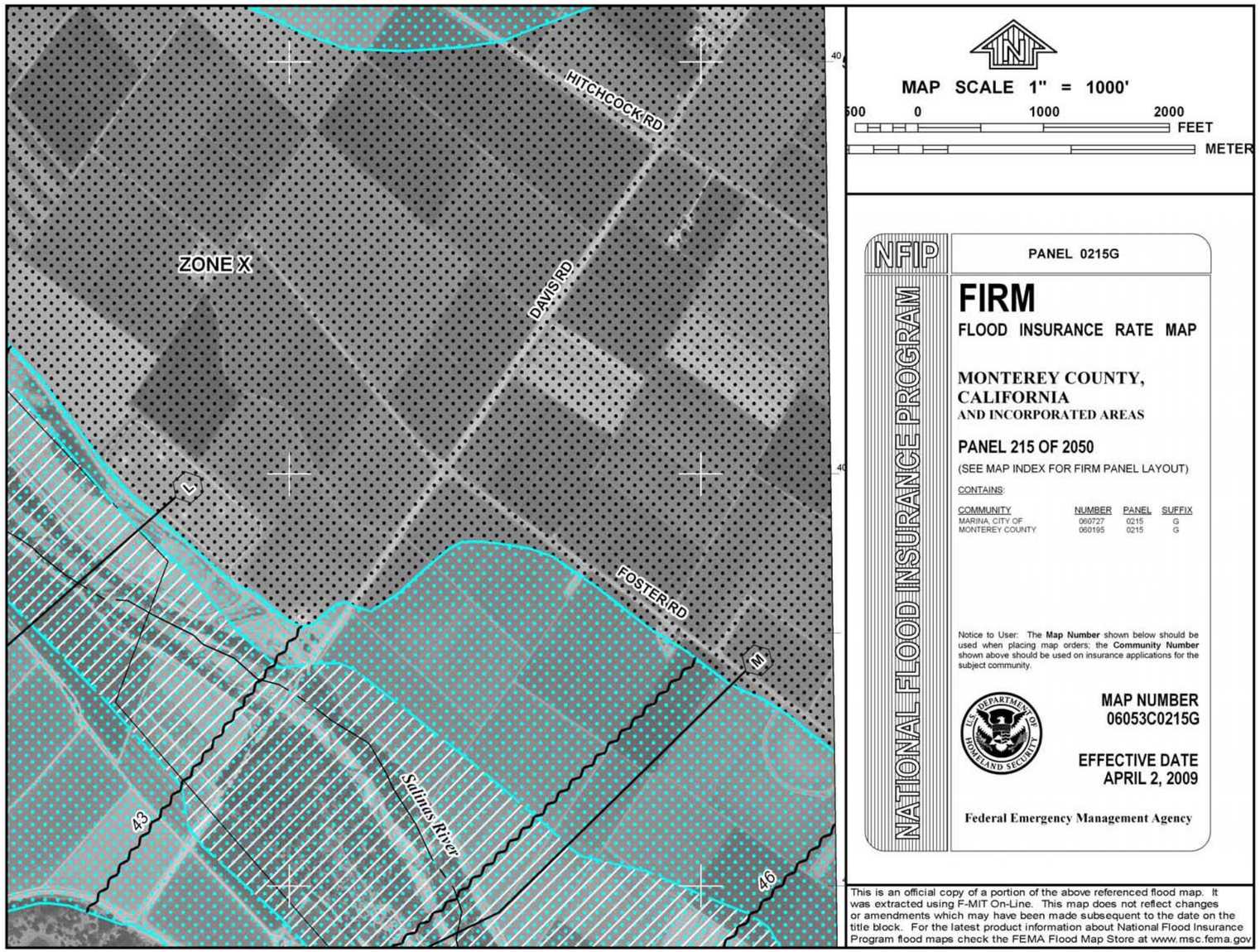

Legend:

Zone X: Areas subject to 500-year flood: areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 100-year flood.

Zone AE: Floodway is the channel or stream or adjacent floodplain areas that, must be kept free of enroachment so that 100-year flood can be carried without substantial increases in flood heights.

Zone AH: Special Flood Hazard Area subject to inundation by 100-year flood with flood depths 1 to 3 feet. Base Flood Elevation determined.

FIGURE 2.9-1 (sheet 2 of 2)

Davis Road Bridge Replacement
and Road Widening Project
Federal Aid Project Number BRLS-5944 (068)
Monterey County, California

Federal Emergency Management Agency (FEMA) Floodplain Map

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- Municipal and domestic water supply
- Agricultural water supply
- Non-contact water recreation
- Wildlife habitat
- Cold freshwater habitat
- Warm freshwater habitat
- Migration of aquatic organisms
- Freshwater replenishment
- Commercial and sport fishing

2.9.3 Environmental Consequences

2.9.3.1 Temporary Impacts

No Build Alternative

The No Build Alternative would not result in any temporary adverse impacts related to hydrology and floodplains.

Build Alternatives

Construction activities in the floodway and floodplain include demolition of the existing 42 ft long bridge, pile driving, and construction of the new 1,700 ft long bridge. Construction within the Salinas River would take approximately 8 months and is planned to occur during the spring, summer, and fall construction season, when surface water within the Salinas River is at its seasonal minimum. Materials and equipment that would be used during bridge construction would be staged within the floodplain. A total of four staging areas would be used. Two staging areas are located on each side of Davis Road just south of the bridge, one staging area is located north of the bridge on the west side of Davis Road just north of the relocated Salinas Industrial Wastewater Treatment Facility (SIWTF) driveway, and one staging area is located north of the bridge on the east side of Davis Road. Since construction activities would be located in the floodplain, they would result in minor impacts to the existing riparian habitat in the creek at the bridge site. Soil would be exposed and there would be the potential for erosion and the downstream transport of sediments and would require compliance under the Construction General Permit (Measure HYD-1). Implementation of Measure HYD-1 would minimize temporary impacts to the floodplain from pollutants of concern in storm water runoff; therefore, the Build Alternatives would not result in any temporary adverse impacts related to the floodplain of the Salinas River.

2.9.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent adverse impacts related to hydrology and floodplains. However, the No Build Alternative would not result in the beneficial effect to the floodplain of the Salinas River that is described below for the Build Alternatives.

Build Alternatives

The new 1,700 ft long bridge would not encroach into the 1,650 ft wide floodway; therefore, the Build Alternatives would not result in a longitudinal encroachment. The new bridge would place the bridge abutments out of the floodway in order to avoid increasing the backwater elevation. In addition, the new bridge would result in a lower water surface elevation compared to the existing conditions and would not increase the base flood elevations. In addition, all grading for the widening of Davis Road associated with the Preferred Alternative and Preferred Alternative – Design Variation would occur well above the ordinary high water mark in order to achieve a 100-year flood passage with no backwater elevation effects. The level of risk to the floodplain at the bridge crossing would decrease compared to existing conditions. Therefore, the Build Alternatives would result in an overall beneficial effect to the floodplain of the Salinas River by replacing and lengthening the bridge.

Significant Encroachment

"Significant encroachment" as defined at 23 CFR 650.105 is a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood-related impacts:

- A significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route
- A significant risk (to life or property)
- A significant adverse impact on natural and beneficial floodplain values

The Build Alternatives do not constitute a significant floodplain encroachment as defined in 23 CFR Section 650.105. As stated above, implementation of the Build Alternatives would result in a lower water surface elevation compared to the existing conditions and would not increase the base flood elevations. In addition, removal of the existing bridge and replacement with the longer bridge would decrease the risk of

flooding and improve the floodplain values within the reach of the Davis Road Bridge. This decrease in water surface elevation and replacement with a longer bridge would not result in any significant change in flood risks or damage, would not cause a significant risk to life or property, would not adversely impact the natural and beneficial floodplain values, and would not have the potential for interruption or termination of emergency service or emergency routes. Furthermore, the Monterey County Water Resources Agency has reviewed the design of the Build Alternatives (the design for the Davis Road Bridge in particular) and determined that the Build Alternatives: (1) meet the requirements of Monterey County Code 16.16; (2) will not result in a significant adverse impact to the floodway; and (3) will not require a FEMA Conditional Letter of Map Revision (CLOMR) (determined on August 6, 2014).[1] Therefore, the Build Alternatives would not result in a significant encroachment into the Salinas River floodplain.

Coordination with local, State, and federal water resources and floodplain management agencies (such as FEMA) is not required because the proposed project would not involve a significant encroachment on a regulatory floodway and would not substantially increase the base flood elevation or require a floodplain map revision.

2.9.4 Avoidance, Minimization, and/or Mitigation Measures

The following regulatory requirement would be implemented with the Build Alternatives and would reduce or avoid impacts to floodplains from pollutants of concern in storm water runoff.

HYD-1 **Construction General Permit:** The project shall comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-0009-DWQ, as amended by 2010-2014-DWQ and 2012-0006-DWQ, NPDES No. CAS000002, or any subsequent permit. The project shall comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the

[1] Monterey County Water Resources Agency. October 8, 2014. *Davis Road Bridge Project Need for A CLOMR.*

appropriate risk level. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and shall include Best Management Practices (BMPs) to control the pollutants (e.g., sediment control, temporary soil stabilization, construction materials management, and non-storm water BMPs).

2.10 Water Quality and Storm Water Runoff

2.10.1 Regulatory Setting

2.10.1.1 Federal Requirements: Clean Water Act

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

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

The goal of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional

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

permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

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

2.10.1.2 State Requirements: Porter-Cologne Water Quality Control Act

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

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

definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

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

2.10.1.3 State Water Resources Control Board and Regional Water Quality Control Boards

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

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity

that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department of Transportation's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

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

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

2.10.1.4 Regional and Local Requirements

Waste Discharge Requirements for Small Municipal Separate Storm Sewer Systems

The SWRCB passed Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004, Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4 Permit) (Phase II Municipal General Permit). Under Order No. 2013-0001-DWQ (NPDES No. CAS000004), regulated small MS4s are required to apply to obtain coverage under the Phase II Municipal General Permit and complete a guidance document. The Central Coast RWQCB implements the Phase II Municipal General Permit in order to be consistent with its Water Quality Control Plan (Basin Plan) and to ensure protection of water quality, beneficial uses, and the biological and physical integrity of watersheds in the Central Coast Region. The Phase II Municipal General Permit requires regulated small MS4s to develop and implement BMPs, measurable goals, and timetables for implementation that are designed to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP) and to protect water quality. The Phase II Municipal General Permit also requires regulated small MS4s to address storm water runoff from development and redevelopment projects through post-construction storm water management requirements approved by the Central Coast RWQCB.

Post-Construction Storm Water Management Requirements for Development Projects in the Central Coast Region (Resolution No. R3-2013-0032)

As noted above, the Phase II Municipal General Permit requires regulated small MS4s to address storm water runoff from development and redevelopment projects through post-construction storm water management requirements approved by the Central Coast RWQCB. The Central Coast RWQCB approved Post-Construction Storm Water Management Requirements for Development Projects in the Central Coast (Post-Construction Requirements) on July 12, 2013 (Resolution R3-2012-0032). Projects that create or replace 2,500 square feet (sf) or more of impervious surface area and receive their first discretionary approval for design elements, or ministerial permit if no discretionary approval is required, after March 6, 2014, are subject to the Post-Construction Requirements.

The Post-Construction Requirements mandate that development projects use Low Impact Development (LID) to detain, retain, and treat runoff. LID incorporates and conserves on-site natural features, together with constructed hydrologic controls, to

more closely mimic pre-development hydrology and watershed processes. The Post-Construction Requirements emphasize protecting and, where degraded, restoring key watershed processes to create and sustain linkages between hydrology, channel geomorphology, and biological health necessary for healthy watersheds. Maintenance and restoration of watershed processes impacted by storm water management is necessary to protect water quality and beneficial uses.

To accomplish its objective of ensuring that the applicant is reducing pollutant discharges to the MEP and preventing storm water discharges from causing or contributing to a violation of receiving water quality standards in all applicable development projects, the Post-Construction Requirements utilize the following five performance standards:

- **Performance Requirement No. 1:** Site Design and Runoff Reduction
- **Performance Requirement No. 2:** Water Quality Treatment
- **Performance Requirement No. 3:** Runoff Retention
- **Performance Requirement No. 4:** Peak Management
- **Performance Requirement No. 5:** Special Circumstances

Post-Construction Requirements are also based in part on a project's location within a particular Watershed Management Zone (WMZ). The urbanized portions of the Central Coast Region are categorized into 10 WMZs based on common key watershed processes and receiving water type (e.g., creek, marine nearshore waters, lake). Each WMZ is aligned with specific Post-Construction Requirements to address the impacts of development on those watersheds and beneficial uses.

Table 2.10.1 provides a summary of the Post-Construction Requirements per development project. The Build Alternatives would be considered a Tier 4 type of project.

Waste Discharge Requirements for the City of Salinas Municipal Storm Water Discharges (Order No. R3-2012-0005, NPDES Permit No. CA0049981)

A municipal NPDES storm water permit was issued to the City of Salinas (Order No. R3-2012-0005, NPDES Permit No. CA0049981) by the Central Coast RWQCB. The issuance of Order No. R3-2012-0005 supersedes and rescinds Order Nos. 99-087 and R3-2004-0135. This Order serves as an NPDES permit, pursuant to Section 402 of the CWA. The City of Salinas is the only Phase I Medium MS4 in the Central Coast Region. Medium Phase I MS4s serve populations between 100,000 and 249,999.

Table 2.10.1 Post-Construction Storm Water Management Requirements

Type of Project	Performance Requirements
Tier 1: Projects, including SFHs that are not part of a larger plan of development, that create or replace 2,500 sf or more of impervious surface.	Implement LID measures: • Limit disturbance of natural drainage features. • Limit clearing, grading, and soil compaction. • Minimize impervious surfaces. • Minimize runoff by dispersing runoff to landscape or using permeable pavements.
Tier 2: Projects, other than SFHs, that create or replace 5,000 sf or more net impervious surface. SFHs that create or replace 15,000 sf or more net impervious surface.	Tier 1 requirements, plus: treat runoff with an approved and appropriately sized LID treatment system prior to discharge from the site.
Tier 3: Projects, other than SFHs, that create or replace 15,000 sf or more of impervious surface. SFHs that create or replace 15,000 sf or more net impervious surface.	Tier 2 requirements, plus: prevent off-site discharge from events up to the 95th percentile rainfall event using Storm Water Control Measures.
Tier 4: Projects that create or replace 22,500 sf of impervious surface.	Tier 3 requirements, plus: control peak flows to not exceed pre-project flows for the 2-year through 10-year events.

Source: *Water Quality Assessment Report* (2014).
LID = Low Impact Development
sf = square feet
SFHs = single-family homes

Monterey County Erosion Control Ordinance

Prior to permit issuance for building, grading, or land clearing, Monterey County's Erosion Control Ordinance requires the preparation of an Erosion Control Plan that identifies the proposed methods for controlling runoff, erosion, and sediment movement. This plan must be reviewed and approved by the appropriate Department Director (Monterey County Code, Chapter 16.12, Section 16.12.060-Erosion Control Plan).

2.10.2 Affected Environment

The information in this section is based on the *Water Quality Assessment Report* (WQAR) (2014) prepared for the proposed project.

2.10.2.1 Surface Waters

Regional Hydrology

The project area is located in the northern half of the Central Coast Region and within the Salinas River Watershed. The Salinas River Watershed covers approximately 4,600 square miles (sq mi) and is the Central Coast Region's third-largest watershed. There are two subwatersheds that make up the Salinas River Watershed: the Upper Salinas River and the Lower Salinas River. The project area is located in the Lower

Salinas River Subwatershed, which encompasses the area from north of Bradley to Monterey Bay and is entirely within Monterey County.

For regulatory purposes, the Central Coast RWQCB designates watershed areas in Hydrologic Units (HUs), which are further divided into Hydrological Areas (HAs) and Hydrologic Subareas (HSAs). As designated by the Central Coast RWQCB Region 3, the project area is located within the Salinas HU and the Lower Salinas Valley HA (there are no HSAs within the Lower Salinas Valley HA). The Salinas River HU includes the Monterey Peninsula and southern coastal area of Monterey Bay, the City of Salinas, agricultural and small urban centers of the Salinas Valley, and recreation developments in the upper watersheds.

Local Hydrology

The Salinas River runs through the southern portion of the project area and is the primary receiving water in the project area. The Salinas River is approximately 155 miles (mi) long and drains two major tributaries controlled by dams: the Nacimiento River and the San Antonio River. Hitchcock Road Channel is the only other hydrologic feature within the project area. Hitchcock Road Channel is a constructed agricultural drain channel running along Hitchcock Road. The Hitchcock Road Channel contains perennial flows.

Beneficial Uses for Surface Waters

Beneficial uses of inland surface waters form the cornerstone of water quality protection under the Central Coast RWQCB Water Quality Control Plan (Basin Plan). Beneficial uses are defined in the Basin Plan as those necessary for the survival of well-being of humans, plants, and wildlife. Examples of beneficial uses include drinking water supplies, swimming, industrial and agricultural water supply, and the support of freshwater and marine habitats and their organisms.

The following present and potential beneficial uses for the Old Salinas River (OSR) Estuary, Salinas River Refuge Lagoon (south), Salinas River Lagoon (north), and Salinas River downstream of Spreckels Gage as identified in the Central Coast RWQCB Basin Plan are identified in Table 2.10.2.

The following existing and anticipated beneficial uses of Moss Landing Harbor as identified in the Basin Plan are identified Table 2.10.3.

Table 2.10.2 Receiving Water Beneficial Uses

Beneficial Uses	Old Salinas River Estuary	Salinas River Refuge Lagoon (south)	Salinas River Lagoon (north)	Salinas River, Downstream of Spreckels Gage
MUN: Municipal and Domestic Supply				●
AGR: Agricultural Supply				●
REC-1: Water Contact Recreation	●	●	●	
REC-2: Non-Contact Water Recreation	●	●	●	●
WILD: Wildlife Habitat	●	●	●	●
COLD: Cold Freshwater Habitat	●	●	●	●
WARM: Warm Freshwater Habitat	●	●	●	●
MIGR: Migration of Aquatic Organisms	●	●	●	●
SPWN: Spawning, Reproduction, and/or Early Development	●		●	
BIOL: Preservation of Biological Habitats of Special Significance	●	●	●	
RARE: Rare, Threatened, or Endangered Species	●	●	●	
EST: Estuarine Habitat	●		●	
FRESH: Freshwater Replenishment				●
COMM: Commercial or Sport Fishing	●	●	●	
SHELL: Shellfish Harvesting	●	●	●	

Source: *Water Quality Assessment Report* (2014).

Table 2.10.3 Existing and Anticipated Beneficial Uses of Coastal Waters

Beneficial Uses	Moss Landing Harbor
REC-1: Water Contact Recreation	●
REC-2: Non-Contact Water Recreation	●
IND: Industrial Service Supply	●
NAV: Navigation	●
MAR: Marine Habitat	●
SHELL: Shellfish Harvesting[1]	●
COMM: Commercial and Sport Fishing	●
RARE: Rare, Threatened, or Endangered	●
WILD: Wildlife Habitat	●

Source: *Water Quality Assessment Report* (2014).

[1] Clamming is an existing beneficial use in the North Harbor and on the south side of the entrance channel to Elkhorn Slough (north of Pacific Gas and Electric Cooling Water Intake). Presently, no shell fishing use occurs south of the Pacific Gas and Electric Intake.

Surface Water Quality Objectives

Surface water quality objectives for all inland waters within the Central Coast Region, as documented in the Basin Plan, are listed in Table 2.10.4. There are no site-specific surface water quality objectives for any of the receiving waters within the project area.

2.10.2.2 Groundwater

The project area is located within the Central Coast Hydrologic Region as defined by the California Department of Water Resources and the Central Coast RWQCB. The project area is located within the 180/400-Foot Aquifer Subbasin and the Corral de Tierra Area Subbasin within the larger Salinas Valley Groundwater Basin.

The 180/400-Foot Aquifer Subbasin contains two main water-bearing units that are the basis for the subbasin's name—the 180-Foot Aquifer and the 400-Foot Aquifer—which are named for the average depth at which they occur. The thickness of the 180-Foot Aquifer varies from 50 to 150 feet (ft), with an average of 100 ft. The 180-Foot Aquifer consists of a complex zone of interconnected sands, gravels, and clay lenses. The 180-Foot Aquifer is separated from the 400-Foot Aquifer by a zone of discontinuous aquifers and aquitards. The 400-Foot Aquifer has an average thickness of 200 ft and consists of sands, gravels, and clay lenses.

The 180/400-Foot Aquifer Subbasin includes the lower reaches and mouth of the Salinas River. The extreme northwest boundary of the 180/400-Foot Subbasin is shared with the Salinas Valley–-Seaside Area Subbasin along the seaward projection of the King City Fault. The 180/400-Foot Subbasin is bounded by Monterey Bay to the northwest. The northern 180/400-Foot Subbasin boundary is shared with the Pajaro Valley Groundwater Basin and coincides with the inland projection of a 400 ft deep, buried and clay-filled drainage of the Salinas River. The northeastern boundary of the 180/400-Foot Subbasin is shared throughout most of its length by the adjacent Salinas Valley-Eastside Subbasin, and to the north with a shorter length of common boundary with the Salinas Valley-Langley Area Subbasin. The northeastern subbasin boundary generally coincides with the northeastern limit of confining conditions in the 180/400-Foot Aquifer Subbasin and with the location of United States Highway 101 (US 101). The southeastern boundary (near the City of Gonzales) is shared with the adjacent Salinas Valley-Lower Forebay Subbasin. The 180/400-Foot Aquifer Subbasin boundaries generally coincide with those of the Pressure Subarea of the Monterey County Water Resources Agency (MCWRA).

Table 2.10.4 Water Quality Objectives for all Inland Surface Waters, Enclosed Bays, and Estuaries

Constituent	Concentration
Color	Shall not cause nuisance or adversely affect beneficial uses.
Tastes and Odors	Shall not cause nuisance or adversely affect beneficial uses or cause undesirable tastes or odors to fish flesh or other edible products of aquatic origin.
Floating Material	Shall not cause nuisance or adversely affect beneficial uses.
Suspended Material	Shall not cause nuisance or adversely affect beneficial uses.
Settleable Material	Shall not cause nuisance or adversely affect beneficial uses.
Oil and Grease	Shall not cause nuisance or adversely affect beneficial uses or result in a visible film or coating on water surface.
Biostimulatory Substances	Shall not cause nuisance or adversely affect beneficial uses.
Sediment	Shall not cause nuisance or adversely affect beneficial uses.
Turbidity	• Where natural turbidity is between 0 and 50 JTU, increases shall not exceed 20%. • Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10%. • Where natural turbidity is greater than 100 JTU, increases shall not exceed 10%.
pH	Shall not be depressed below 7.0 nor raised above 8.5.
Dissolved Oxygen	Shall not be less than 5.0 mg/L and median values shall not fall below 85% saturation.
Temperature	The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated that such alteration in temperature does not adversely affect beneficial uses.
Toxicity	All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Pesticides	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life. For waters where existing concentrations are presently undetectable or where beneficial uses would be impaired by concentrations in excess of undetectable levels, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for Examination of Water and Wastewater, latest edition, or other equivalent methods approved by the Executive Officer.
Chemical constituents	Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and other relevant local controls.
Radioactivity	Shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or result in the accumulation of radionuclides in the food web that would present a hazard to human, plant, animal, or aquatic life.
Not-To-Be-Exceeded Levels	
Methylene Blue Activated Substances	0.2 mg/L
Phenols	0.1 mg/L
PCBs	0.3 µg/L
Phthalate Esters	0.002 µg/L

Source: *Water Quality Assessment Report* (2014).

µg/L = micrograms per liter
JTU = Jackson Turbidity Units
mg/L = milligrams per liter
PCBs = polychlorinated biphenyls
pH = percentage of hydrogen

Due to the impermeable nature of the clay aquitard above the 180-Foot Aquifer, subbasin recharge (including that from precipitation, agricultural return flows, or river flow) is nonexistent. Instead, recharge is from underflow originating in upper valley areas such as the Arroyo Seco Cone and Salinas River riverbed or the adjacent Eastside Subbasin, and, more recently, from seawater intrusion.

The Corral de Tierra Area Subbasin comprises the eastern portion of the former Fort Ord and other unincorporated areas. The Corral de Tierra Area Subbasin is bounded on the northwest by the Seaside Area Subbasin and on the northeast by the 180/400-Foot Aquifer Subbasin. On the south and southwest, the Corral de Tierra Area Subbasin is bounded by Middle Miocene marine rock units, and a portion of the eastern boundary is a small area of Mesozoic granitic rocks. Groundwater recharge is from deep percolation of local precipitation and seepage from creeks.

For regulatory purposes, the Central Coast RWQCB designated groundwater basins for the Central Coastal HSA. As designated by the Central Coast RWQCB, the project study area is located partially in the Salinas Valley Groundwater Basin and partially in the Corral de Tierra Area Subbasin.

Beneficial Uses for Groundwater

The present and potential beneficial uses for the larger Salinas Valley Groundwater Basin as identified in the Basin Plan are identified below:

- **MUN:** Municipal and Domestic Supply
- **AGR:** Agricultural Supply
- **IND:** Industrial Service Supply

Groundwater Quality Objectives

The groundwater quality objectives for the Central Coast Basin as designated in the Central Coast RWQCB Basin Plan are provided in Table 2.10.5.

The site-specific groundwater quality objectives for the Salinas River Valley 180/400-Foot Aquifer Subbasin are in Table 2.10.6. There are no site-specific groundwater quality objectives for the Corral de Tierra Area Subbasin in the Central Coast RWQCB Basin Plan.

Table 2.10.5 Groundwater Quality Objectives for the Central Coast Basin

Constituent	Concentration
Bacteria	In groundwater used for Domestic or Municipal Supply (MUN), the median concentration of coliform organisms over any 7-day period shall be less than 1.1/100 mL.
Chemical Constituents	Groundwater used for Municipal Supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 4, Section 64435, Tables 2 and 3. Groundwater used for Agricultural Supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Table 3-3 of the Basin Plan. In addition, water used for irrigation and livestock watering shall not exceed the concentrations for those chemicals listed in Table 3-4 of the Basin Plan. No controllable water quality factor shall degrade the quality of any groundwater resource or adversely affect long-term soil productivity. The salinity control aspects of groundwater management will account for effects from all sources.
Organic Chemicals	Groundwater shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5 and listed in Table 3-1 of the Basin Plan.
Radioactivity	Shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. Groundwater shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, Table 4.
Tastes and Odors	Shall not contain taste-producing or odor-producing substances in concentrations that adversely affect beneficial uses.

Source: *Water Quality Assessment Report* (2014).
Basin Plan = Central Coast Regional Water Quality Control Board Water Quality Control Plan
mL = milliliters

Table 2.10.6 Site-Specific Groundwater Quality Objectives for the 180/400-Foot Aquifer Subbasin

Constituent	Concentration (mg/L)[1]	
	180-Foot Aquifer	400-Foot Aquifer
Total Dissolved Solids (TDS)	1,500	400
Chlorine (Cl)	250	50
Sulfate (SO_4)	600	100
Boron (B)	0.5	0.2
Sodium (N_a)	250	50
Nitrogen (N)	1	1

Source: *Water Quality Assessment Report* (2014).
[1] Objectives shown are annual mean values. Objectives are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources.
mg/L = milligrams per liter

2.10.2.3 Regional Water Quality

Surface Water Quality

The Salinas River runs through the southern portion of the project area and is within the Salinas River Watershed. Significant water quality issues in the Salinas River Watershed include heavy agricultural use, over-pumping for irrigation, seawater intrusion, nitrate contamination, urbanization, flood control activities, hydromodification of creeks, and mining of sand, gravel, mineral, and oil reserves from various locations throughout the watershed.

Additional water quality monitoring was conducted for the Salinas River at Spreckels Gage by the Irrigated Agriculture Program of the Central Coast RWQCB between January 2005 and December 2007. Surface water quality data for this sampling location are summarized in Table 2.10.7.

Groundwater Quality

The project area is located in the 180/400-Foot Aquifer Subbasin and the Corral de Tierra Area Subbasin within the larger Salinas Valley Groundwater Basin in the Central Coast Hydrologic Region. Groundwater in the Central Coast Hydrologic Region is characterized by calcium sulfate to calcium sodium bicarbonate sulfate water types because of marine sedimentary rock in the watersheds. Aquifers intruded by seawater are typically characterized by sodium chloride to calcium chloride and have chloride concentrations greater than 500 milligrams per liter (mg/L).

The 180-Foot Aquifer is characterized by calcium sulfate to calcium sodium bicarbonate sulfate. Portions of the aquifer are intruded by seawater, and the water is typically characterized by sodium chloride to calcium chloride. Total Dissolved Solids (TDS) values range from 223 to 1,013 mg/L, with an average value of 478 mg/L. The 400-Foot Aquifer does not have any specific characterizations or TDS levels. However, both the 180-Foot Aquifer and 400-Foot Aquifer are impaired by nitrate and have been intruded by seawater.

The Corral de Tierra Area Subbasin is characterized by bicarbonate-chloride type, with calcium and sodium as the predominant cations. TDS values range from 355 to 679 mg/L. The groundwater is very hard, and one well has a reported specific conductance of 1,060 micromhos per centimeter (µmhos/cm).

Table 2.10.7 Water Quality Data for Salinas River at Spreckels Gage

Constituent	Average Concentration	Concentration Range
Ammonia as N, Unionized	0.016 mg/L	0.000–0.132 mg/L
Nitrate/Nitrite as N	1.4 mg/L	0.00–7.5 mg/L
Turbidity (NTU)	157 NTU	1–2584 NTU
Conductivity	0.59 mmho/cm	0.31–1.06 mmho/cm
pH	8.3	7.7–9.4
Annual Median Dissolved Oxygen (% Saturation)	65%	46–164%
Dissolved Oxygen	8.6 mg/L	4.3–13.4 mg/L
Chlorophyll-a	3.6 µg/L	0.3–23 µg/L
Temperature	17.4°C	10.0–27.9°C

Source: *Water Quality Assessment Report* (2014).
°C = Degrees Celsius
µg/L = micrograms per liter
mg/L = milligrams per liter
mmho/cm = millimhos per centimeter
NTU = National Turbidity Units

2.10.2.4 List of Impaired Waters

The SWRCB approved the 2010 Integrated Report (CWA Section 303(d) List/305(b) Report) on August 4, 2010. On November 12, 2010, the EPA approved the 2010 California 303(d) List of Water Quality Limited Segments. On October 11, 2011, the EPA issued its final decision regarding water bodies and pollutants added to California's 2010 303(d) List. Table 2.10.8 shows the 303(d) listed receiving waters within the project area. As shown in Table 2.10.8, the water bodies listed below are impaired.

- The **Salinas River** (lower estuary to near the Gonzales Road crossing) is impaired for chlordane, chloride, chlorpyrifos, dichlorodiphenyldichloroethane (DDD), diazinon, dieldrin, electrical conductivity, enterococcus, Escherichia coli (E. coli), fecal coliform, nitrate, polychlorinated biphenyls (PCBs), pesticides, sodium, TDS, toxaphene, turbidity, unknown toxicity, and pH;
- The **Salinas River Lagoon (north)** is impaired for nutrients and pesticides;
- The **Salinas River Refugee Lagoon (south)** is impaired for turbidity and pH;
- The **OSR** is impaired for chlorophyll-a, chlorpyrifos, diazinon, E. coli, fecal coliform, low dissolved oxygen, nitrate, sediment toxicity, turbidity, unknown toxicity, and pH;
- The **OSR Estuary** is impaired for nutrients and pesticides; and
- The **Moss Landing Harbor** is impaired for chlorpyrifos, diazinon, low dissolved oxygen, nickel, pathogens, pesticides, sediment toxicity, sedimentation/siltation, and pH.

Table 2.10.8 2010 Clean Water Act Section 303(d) Listing for Project Receiving Water Bodies

Water Body	Pollutant	Expected TMDL Completion Date	Potential Source
Salinas River (lower, estuary to near Gonzales Road crossing)	Chlordane	2013	Source unknown
	Chloride	2018	Grazing-related sources, agriculture, natural sources, and other urban runoff
	Chlorpyrifos	2013	Grazing-related sources, other urban runoff, agriculture
	DDD	2013	Source unknown
	Diazinon	2013	Grazing-related sources, other urban runoff, agriculture
	Dieldrin	2013	Source unknown
	Electrical conductivity	2013	Source unknown
	Enterococcus	2013	Illegal dumping, natural sources, urban runoff/ storm sewers, pasture grazing–riparian and/or upland, grazing-related sources, transient encampments, and agriculture
	E. coli	2013	Natural sources, transient encampments, urban runoff/storm sewers, grazing-related sources, agriculture, pasture grazing–riparian and/or upland, and illegal dumping
	Fecal coliform	2013	Agriculture, transient encampments, natural sources, pasture grazing– riparian and/or upland, urban runoff/storm sewers, grazing-related sources, and illegal dumping
	Nitrate	2013	Grazing-related sources, agriculture, and urban runoff/storm sewers
	PCBs	2013	Source unknown
	Pesticides	2013	Construction/land development, urban runoff/ storm sewers, point source, and agriculture
	Sodium	2018	Source unknown
	TDS	2018	Source unknown
	Toxaphene	2013	Source unknown
	Turbidity	2013	Other urban runoff, grazing-related sources, and agriculture
	Unknown toxicity	2013	Agriculture, other urban runoff, and grazing-related sources
	pH	2013	Source unknown
Salinas River Lagoon (North)	Nutrients	2013	Non-point source
	Pesticides	2013	Agriculture
Salinas River Refugee Lagoon (South)	Turbidity	2013	Land development, other urban runoff, and agriculture
	pH	2013	Other urban runoff, land development, natural sources, and agriculture
Old Salinas River	Chlorophyll-a	2013	Removal of riparian vegetation, other urban runoff, dredging, and agriculture
	Chlorpyrifos	2013	Other urban runoff and agriculture
	Diazinon	2013	Other urban runoff and agriculture
	E. coli	2013	Marinas and recreational boating, other urban runoff, agriculture, and natural sources
	Fecal Coliform	2013	Natural sources, agriculture, marinas and recreational boating, and other urban runoff
	Low Dissolved Oxygen	2013	Other urban runoff, removal of riparian vegetation, agriculture, and marinas and recreational boating
	Nitrate	2013	Agriculture and other urban runoff
	Sediment Toxicity	2013	Other urban runoff and agriculture
	Turbidity	2013	Other urban runoff and agriculture
	Unknown Toxicity	2013	Agriculture and other urban runoff
	pH	2013	Other urban runoff and agriculture

Table 2.10.8 2010 Clean Water Act Section 303(d) Listing for Project Receiving Water Bodies

Water Body	Pollutant	Expected TMDL Completion Date	Potential Source
Old Salinas River Estuary	Nutrients	2013	Agriculture, agriculture–irrigation tailwater, irrigated crop production, and non-point source
	Pesticides	2013	Agricultural return flows, agriculture, agriculture–storm runoff, agriculture–irrigation tailwater, irrigated crop production, and non-point source
Moss Landing Harbor	Chlorpyrifos	2021	Grazing-related sources, agriculture, and other urban runoff
	Diazinon	2021	Grazing-related sources, agriculture, and other urban runoff
	Low Dissolved Oxygen	2021	Source unknown
	Nickel	2021	Other urban runoff, marinas and recreational boating, source unknown, dredging, agriculture, and natural sources
	Pathogens	2021	Agriculture, boat discharges/vessel wastes, and non-point source
	Pesticides	2021	Irrigated crop production, specialty crop production, and agriculture
	Sediment Toxicity	2021	Boat yards, agriculture, dredging, grazing-related sources, marinas and recreational boating, and other urban runoff
	Sedimentation/Siltation	2021	Dredging, erosion/siltation, channel erosion, non-point source, hydromodification, agriculture, irrigated crop production, and agriculture–storm runoff
	pH	2021	Source unknown

Source: *Water Quality Assessment Report* (2014).
DDD = dichlorodiphenyldichloroethane
E. Coli = Escherichia coli
PCBs = polychlorinated biphenyls
pH = percentage of hydrogen
TMDL = Total Maximum Daily Load

2.10.3 Environmental Consequences

2.10.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary adverse impacts related to storm water runoff and water quality.

Build Alternatives

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. Furthermore,

chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and thereby have the potential to be transported via storm runoff into receiving waters.

During construction, the Preferred Alternative would disturb a total of approximately 47.5 acres (ac), and Alternative 2 would disturb a total of approximately 16.7 ac, exposing soils and increasing the potential for soil erosion, which could be a source of downstream sediment. Furthermore, during the bridge removal, there would be an increased potential for soil erosion and the transport of downstream sediment to occur. During construction within the Salinas River Channel, Measure WQ-5 would implement California Department of Transportation (Caltrans) BMPs and limit in-water work to be completed during low-flow conditions to minimize the mobilization of sediments. In addition, when new structures are installed or modified (e.g., roads and bridges), concrete and/or asphalt applications could be a source of fine sediment, metals, and chemicals.. Grading and other earthmoving activities during construction could be a source of petroleum products and heavy metals if the equipment engines leak. Furthermore, temporary or portable sanitary facilities would be provided for construction workers and could be a source of sanitary waste. Groundwater dewatering would not be required during construction activities. Under Measure HYD-1, the Build Alternatives would comply with the Construction General Permit. Therefore, no short-term water quality impacts to the physical/chemical characteristics of the on-site or downstream aquatic environment are anticipated during construction.

Runoff from the Build Alternatives drains into the Salinas River, which is a low-gradient stream flowing over a sandy bed with perennial flows. The Salinas River experiences especially low flows during the summer and fall months. In addition, the Salinas River typically experiences flash floods during winter storm events, which scour out riparian vegetation and deposit fresh layers of sediment along its channel. Such flood events promote a diverse mosaic of riparian vegetation. The Salinas River supports several native fish species, amphibians, and several semi-aquatic reptiles. The perennial flows of the Salinas River, in combination with the surrounding riparian vegetation, results in a healthy and functioning on-site aquatic environment during normal rainfall years. In addition, the Build Alternatives drain into receiving waters such as the Pacific Ocean, which depends on the biological characteristics of the aquatic environment in order to sustain a functioning aquatic ecosystem, an ecosystem that supports a biological (e.g., fish) and human environment (e.g., recreation). Under Measure HYD-1, the Build Alternatives would be required to

prepare a SWPPP and implement construction. Therefore, no short-term water quality impacts to the biological characteristics of the on-site or downstream aquatic environment are anticipated during construction.

Furthermore, the drainages within the project area consist of drainage inlets, overside drains, asphalt concrete dikes, culverts, and V-ditches. It is unlikely that the man-made drainages within the project area support human activities. However, the Salinas River runs through the southern portion of the project area and does support human activities such as non-contact water recreation. Other receiving waters such as the Salinas Lagoon, the OSR Estuary, and the Pacific Ocean have beneficial uses associated with human activities that include contact and non-contact recreation. In addition to preparing a SWPPP, during construction within the Salinas River Channel, Caltrans BMPs would be implemented to minimize sediment mobilization. Consequently, the Build Alternatives would result in negligible changes in the quality of runoff that reaches downstream receiving waters during construction. Therefore, there would be no adverse impact to the human use characteristics of the on-site or downstream aquatic environment during construction.

With implementation of Measures HYD-1 and WQ-5, the Build Alternatives would comply with the applicable permits during construction and therefore would not result in any adverse temporary impacts associated with construction activities.

2.10.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in permanent adverse impacts related to storm water runoff and water quality.

Build Alternatives

Primary pollutants of concern are pollutants that are expected to be or have the potential to be in project runoff based on proposed land uses, and which also have been identified as causing impairments to receiving waters on the most recent 303(d) list or have an established TMDL. Other pollutants of concern are those that are expected to be or have the potential to be in project runoff but do not have an established TMDL for receiving waters and have not been identified as causing impairments to receiving waters. Pollutants of concern during operation of the Build Alternatives include the following: nutrients, suspended solids/sediments, heavy

metals, toxic organic compounds, oil and grease, trash and debris, pesticides, and sanitary waste.

These pollutants of concern are typically generated during the operation of a transportation facility. Through road widening, demolition of the old bridge, construction of the new bridge, grading, excavation, paving, addition of turn lanes, relocation of utility poles, and regrading farm access roads, the Build Alternatives would result in a net increase of impervious surface area. The Preferred Alternative would result in a net increase of approximately 13.8 ac, and Alternative 2 would result in a net increase of approximately 1.4 ac. The increase of impervious surface area associated with the Build Alternatives would result in an increase in the volume of runoff during a storm, thereby more effectively transporting pollutants to receiving waters which, in turn, causes turbidity and downstream erosion or accretion over existing conditions. Increases in chemical pollutants and changes in temperature and pH may lead to detrimental effects to downstream receiving waters.

During operation, the Build Alternatives would be required to comply with the applicable permits, including the SWRCB Phase II Municipal General Permit, the Central Coast Region Post-Construction Storm Water Management Requirements, the City of Salinas Municipal Phase I Permit, and the City of Salinas Erosion Control Ordinance (Measures WQ-1, WQ-2, WQ-3, and WQ-4, respectively). In addition, the Build Alternatives would treat storm water runoff with BMPs such as infiltration ditches and a retention pond. The proposed BMPs would reduce pollutants of concern. The Preferred Alternative would treat 89.2 percent of the Davis Road surface runoff from a 95th percentile storm event, and Alternative 2 would treat 100 percent of the surface runoff from a 95th percentile storm event. The runoff would be treated via infiltration and would not enter the local municipal storm drain system. Because the Build Alternatives would implement effective BMPs that would treat the new quantities of storm water runoff, there would be no adverse impacts to the physical/chemical characteristics of the on-site or downstream aquatic environment. Therefore, no long-term water quality impacts to physical/chemical characteristics of the aquatic environment are anticipated.

There are biological resources present on site that are dependent on aquatic resources such as native fish, amphibians, semiaquatic reptiles, and natural riparian vegetation communities. In addition, there are biological resources dependent on aquatic resources downstream of the project area (e.g., the Pacific Ocean). As noted above, the Build Alternatives would increase the amount of impervious surface area,

resulting in an increase in the volume of runoff, thereby increasing the energy of the flows and the downstream transport of pollutants to downstream receiving waters. However, as noted above, the Build Alternatives would comply with applicable permits and would implement BMPs as appropriate to treat runoff from the project site and reduce pollutants of concern. Because the Build Alternatives would implement effective BMPs that would treat storm water runoff from the project site, there would be no adverse impacts to the biological characteristics of the on-site or downstream aquatic environment. Therefore, no long-term water quality impacts to biological characteristics of the aquatic environment are anticipated.

As noted above, the Salinas River has designated beneficial uses for non-contact water recreation. The Salinas River Lagoon, the OSR Estuary, and the Pacific Ocean, which are all receiving waters of the Build Alternatives, have designated beneficial uses for both contact and non-contact water recreation. As noted above, the Build Alternatives would comply with applicable permits and would implement BMPs; therefore, the Build Alternatives would result in negligible changes in the quality of runoff that reach downstream receiving waters during operation. Therefore, there would be no adverse impacts to the human use characteristics of the on-site or downstream aquatic environment, and no long-term water quality impacts to human use characteristics of the aquatic environment are anticipated.

With implementation of Measures WQ-1 through WQ-4, the Build Alternatives would comply with the applicable permits, and therefore would not result in any adverse permanent impacts associated with implementation of the Build Alternatives.

2.10.4 Avoidance, Minimization, and/or Mitigation Measures

The following regulatory requirements would be implemented with the Build Alternatives and would avoid and/or minimize impacts related to water quality.

WQ-1 **Phase II Municipal General Permit:** The project shall comply with the provisions of the NPDES General Permit, Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Phase II Municipal General Permit), Order No. 2013-0001-DWQ, No. CAS000004, or any subsequent permit. The Phase II Municipal General Permit shall include implementation of Treatment Control BMPs to the maximum extent practicable (MEP). Treatment Control BMPs include infiltration ditches with and without check dams and a retention pond.

WQ-2 **Resolution R3-2013-0032:** The project shall comply with the provisions of the Post-Construction Storm Water Management Requirements for Development Projects in the Central Coast Region (Resolution No. R3-2013-0032). The project shall comply with the Runoff Retention and Peak Management performance requirements applicable to the project (Tier 4). The project shall prevent off-site discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data. Compliance must be achieved by optimizing infiltration and retaining the remaining volume via storage, rainwater harvesting, and/or evapotranspiration. The project shall follow Low-Impact Development standards to meet runoff retention performance requirements. The project shall meet peak management requirements so that post-development peak flows discharged from the site shall not exceed pre-project peak flows for the 2- through 10-year storm events.

WQ-3 **City of Salinas Phase I General Permit:** The project shall comply with the provisions of the WDRs for the City of Salinas Municipal Storm Water Discharges (Order No. R3-2012-0005) (NPDES Permit No. CA0049981). Discharges of runoff from industrial and construction sites are subject to dual (State and local) storm water regulation. Under this dual system, the Central Coast Regional Water Quality Control Board (RWQCB) is responsible for enforcing statewide General Permits. NPDES municipal regulations require the municipal permittee to develop and implement measures to address runoff from industrial and construction activities. Those measures shall require the implementation of additional BMPs for activities subject to both State and local regulation.

WQ-4 **Erosion Control Ordinance:** The County of Monterey (County) shall ensure the project complies with the County Municipal Code, Chapter 16.12. During the plans, specifications, and estimates (PS&E) phase, an Erosion Control Ordinance shall be submitted to the County Director of Public Works for approval. The Erosion Control Ordinance shall indicate the proposed methods for the control of runoff, erosion, and sediment movement during project operations.

WQ-5 **Caltrans Best Management Practices:** The project shall comply with Section 7-1.01G of the California Department of Transportation (Caltrans) Standard Specifications – Water Pollution Control and the Caltrans Construction Manual, Section 6-20 – Erosion Control and Highway Planting, in order to minimize water quality impacts by using Caltrans BMPs. The project shall minimize the mobilization of sediments during in-water work by using silt trapping devices (e.g., curtains) during removal of the old bridge and shall implement Caltrans BMPs for the control of noxious weeds, including using weed-free seed and mulching materials.

In addition to the measures described above for water quality, Measure HYD-1 in Section 2.9, Hydrology and Floodplain, would also avoid and/or minimize impacts related to water quality.

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2.11 Geology/Soils/Seismic/Topography

2.11.1 Regulatory Setting

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

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

The Safety Element of the Monterey County General Plan (2010) contains policies to protect the public from risks associated with seismic and geologic hazards. The Safety Element identifies the San Andreas Fault as posing the single greatest seismic hazard to the County of Monterey (County).

2.11.2 Affected Environment

The information in this section is based on the *Preliminary Geotechnical Memo* (2013) and the *Water Quality Assessment Report* (2014) prepared for the proposed project.

There are 11 geomorphic provinces in California, as defined by the California Geological Survey. Geomorphic provinces are geologic regions with distinct landforms and geology. The project area is located in the Salinas Valley, within the Coast Ranges Geomorphic Province. The Coast Ranges are northwest-trending mountain ranges and valleys running sub-parallel to the San Andreas Fault. The Coast Ranges extend north to Oregon and are bordered by the Pacific Ocean on the west,

the Transverse Ranges on the south, and Great Valley and Klamath Mountains on the east.[1]

2.11.2.1 National Natural Landmarks

According to the National Park Services, the nearest National Natural Landmark (NNL) to the project area is the Point Lobos State Reserve.[2] The Point Lobos State Reserve is located in Monterey County, approximately 15.5 miles (mi) southwest of the project. Since there are no NNLs in or near the project area, NNLs are not discussed further in this section.

2.11.2.2 Topography

The project area is relatively flat, with elevations typically ranging from approximately 30 to 40 feet (ft) above mean sea level (amsl). The Salinas River crosses along the southern portion of the project area and represents the lowest elevations along the project alignment. The lowest point of the project area is at the edge of the Salinas River, where the elevation is approximately 19 ft amsl.

2.11.2.3 Stratigraphy/Soils

Regional geologic maps indicate that the project area subsoil is predominantly alluvial gravel, sand, and silt/clay of valleys and floodplains. Other underlying areas include stream channel gravel and sands in areas associated with the Salinas River, and Aromas Sand along the southeastern portion of Reservation Road. Where geotechnical boring samples were taken for the *Preliminary Geotechnical Memo* (2013), thick liquefiable soils layers were generally intermixed between denser layers of silt and clay. Dense to very dense sands were encountered at the maximum depth of exploration for all boring locations.

2.11.2.4 Surface Water

As indicated above, the Salinas River runs through the southern portion of the project area and is the primary receiving water for runoff from the project area. The Salinas

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1 California Department of Conservation. 2002. *California Geological Survey: California Geomorphic Provinces*. Last accessed September 9, 2014, from http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf.

2 National Park Service. 2012. National Natural Landmarks Program: California. Last accessed September 9, 2014, from http://www.nature.nps.gov/nnl/state.cfm?State=CA#stateMap.

River drains to Monterey Bay and the Pacific Ocean via the Salinas River Lagoon or through the Old Salinas River (OSR) Estuary via the OSR Channel to Moss Landing Harbor. The Hitchcock Road Channel is the only other hydrologic feature in the project area. The Hitchcock Road Channel is a constructed agricultural drain that runs along Hitchcock Road and perpendicular to Davis Road. The channel crosses underneath the Davis Road/Hitchcock Road intersection.

2.11.2.5 Groundwater

The project area is primarily located within the 180/400-Foot Aquifer Subbasin, while the southern extent is located in the Corral de Tierra Area Subbasin. Both of the subbasins lie within the larger Salinas Valley Groundwater Basin. The 180/400-Foot Aquifer Subbasin contains two main water-bearing units that are the basis for the subbasin's name (i.e., the 180-Foot Aquifer and the 400-Foot Aquifer, which are named for the average depth at which they occur). The thickness of the 180-Foot Aquifer varies from 50 to 150 ft, with an average of 100 ft. The 180-Foot Aquifer consists of a complex zone of interconnected sands, gravels, and clay lenses. The 180-Foot Aquifer is separated from the 400-Foot Aquifer by a zone of discontinuous aquifers and aquitards. The 400-Foot Aquifer has an average thickness of 200 ft and consists of sands, gravels, and clay lenses.

The Corral de Tierra Area Subbasin comprises the southern portion of the project area along Reservation Road. Groundwater recharge is from deep percolation of local precipitation and from seepage from creeks.

Where geotechnical boring samples were taken for the *Preliminary Geotechnical Memo* (2013), groundwater levels ranged from 9 to 15 ft below ground surface (bgs) in and near the Salinas River Channel.

2.11.2.6 Naturally Occurring Oil and Gas

Based on information from the California Division of Oil and Geothermal Resources, no naturally occurring oil or gas is present within the project area. No active or abandoned wells are known to be present within the project area.[1]

[1] California Department of Conservation. Division of Oil, Gas, & Geothermal Resources: Well Finder. Last Accessed September 9, 2014, from http://maps.conservation.ca.gov/doggr/index.html#close.

2.11.2.7 Mineral Resources/ Mineral Hazards

The primary mineral commodities mined in the County include sand, gravel, and petroleum. The project area is not known to contain any economical mineral resources. No naturally occurring asbestos (NOA) and mercury are known to occur within the project area. Therefore, impacts associated with mineral resources and mineral hazards are not discussed further in this section.

2.11.2.8 Faulting

The entire California Coast and Coast Ranges are seismically active due to the influence of several earthquake fault systems. The County lies within a region of high seismic activity in the form of frequent medium earthquakes with nearby epicenters, as well as infrequent major earthquakes. There are two primary hazards associated with active faults: ground shaking and fault-induced ground rupture. Moderate ground shaking is expected in the project area due to regional faults and active and potentially active faults near the project area. The potential to experience substantial seismic ground shaking is a common hazard for projects in California, and the hazard cannot be avoided. The following presents a general description of faults present within the vicinity of the project area.

According to the most recent Fault Activity Map of California,[1] the Reliz Fault runs south east along the Santa Lucia Range and may potentially cross along the southern portion of the project area near the Davis Road/Reservation Road intersection. The San Andreas Fault poses the greatest seismic threat to the project area and the County. The closest section of the San Andreas Fault is located approximately 18.5 mi northeast of the project area. Other active faults that could potentially affect the project area include the Palo Colorado-San Gregorio Fault Zone and the Monterey Fault Zone, which lie to the west and northwest, respectively.[2]

2.11.2.9 Geologic Hazards

The geologic hazards associated with seismic shaking are discussed in the following sections. Other types of non-seismic geologic hazards exist and are also described in the following sections.

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1 California Department of Conservation. 2010. Fault Activity Map of California. Last accessed September 9, 2014 from http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html.

2 County of Monterey. 2010. *Monterey County General Plan: Safety Element.*

Liquefaction

Soil liquefaction occurs when saturated, loose soils lose their strength due to excess pore water pressure caused by earthquake ground shaking. The space between the soil particles is completely filled with water, which exerts pressure on the soil particles, thereby influencing how tightly the soil particles are pressed together. Prior to an earthquake, the water pressure is static. However, the shaking caused by an earthquake can increase the pore water pressure to a point where soil loses strength and ground deformation can occur. The primary factors affecting the possibility of liquefaction in a soil deposit are the intensity and duration of the earthquake shaking, the soil type, the relative density of that soil, the pressures of material above that soil, and the depth to groundwater. The types of soils most susceptible to liquefaction are clean, loose, uniformly graded, fine-grained sands; non-plastic silts that are saturated; and silty sands. When liquefaction occurs, the strength of the soil decreases and the ability of the soil to support structures is reduced. The potential impacts of liquefaction may include settlement of the ground surface, additional forces pushing down on foundation piles as a result of soil settlement above the liquefied layers, and reduction of the shear strength of the liquefied soil, resulting in reduced load-carrying capacity. Liquefied soils can also exert additional dynamic pressures on retaining walls, which can cause them to tilt or slide.

According to the *Preliminary Geotechnical Memo* (2013), soil liquefaction potential is relatively high for the loose sands located within the Salinas River Channel.

Lateral Spreading

Lateral spreading is closely related to liquefaction and represents the lateral movement of gently sloping ground as a result of pore pressure buildup during an earthquake event. Areas most susceptible to lateral spreading would generally be the same as those described earlier as liquefaction zones. Therefore, the potential for lateral spreading to occur within the project area is high.

Seismic Settlement

Seismic settlement is a phenomenon in which loose, unsaturated sands tend to settle or become denser during strong seismic shaking. Sediments that are sufficiently loose can experience seismic settlement, which can cause ground surface settlement and damage to surface and near-surface structures. Areas most susceptible to seismically induced settlement would generally be the same as those described earlier as liquefaction zones. Therefore the potential for seismic settlement to occur within the project area is high.

Seismically-Induced Landslides

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

Seismically-induced landslides were not identified as a geotechnical design concern in the *Preliminary Geotechnical Memo* (2013). In addition, according to geographic information systems (GIS) data available from the County, there is low susceptibility for landslides throughout the whole project area.[1]

Rock Falls

A rock fall refers to quantities of rock falling freely from a cliff face, and is not a seismically induced event. The only portion of the project that has the potential to be affected by rock falls is the southernmost portion along Reservation Road where steep slopes are located immediately south of the project area. However rock falls were not identified as a potential concern in the Preliminary Geotechnical Memo and are therefore not discussed further.

Tsunami and Seiches

The project area is not adjacent to or in the vicinity of any large water bodies that could experience seiches. According to the California Geological Survey Tsunami Inundations Map for the Marina Quadrangle, the project area is above elevations that could experience flooding associated with tsunamis.[2] As a result, tsunamis and

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1 County of Monterey. 2014. Monterey County GIS – Open Data: Landslides. Last accessed September 10, 2014, from http://montereycountyopendata.montereyco.opendata.arcgis.com/datasets/3600f11715f241c88444dbc215239179_0?geometry=-123.209%2C35.685%2C-114.513%2C37.012.

2 http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Monterey/Documents/Tsunami_Inundation_Marina_Quad_Monterey.pdf.

seiches are not considered potential geologic hazards and are therefore not discussed further.

Erosion

Erosion occurs when rock and/or soil surfaces are exposed to weathering caused by wind and/or water. Based on United States Geological Survey (USGS) mapping, soils within the project area possess a low to moderate erosion potential.

Subsidence

Regional subsidence results from the withdrawal of groundwater and/or hydrocarbons from subsurface areas. As groundwater or hydrocarbons are pumped out of the ground, the resultant voids or pores are compressed under the pressures of the materials above. Accumulation of the compression results in subsidence of the ground surface. The *Preliminary Geotechnical Memo* (2013) does not identify subsidence as a potential hazard to adversely affect the project area. There has been a lack of regional subsidence in the Salinas Valley, and there is low potential for it to occur due to a lack of depressed groundwater levels and geologic conditions.[1] Regional subsidence is not considered a potential geologic hazard for the project and is therefore not discussed further in this section.

2.11.3 Environmental Consequences

2.11.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, there would be no temporary adverse impacts related to geology and soils.

Build Alternatives

Implementation of the Build Alternatives would include surface work associated with grading and roadway construction, as well as subsurface work associated with the construction of the new bridge. Grading activities would occur in association with the construction of the new bridge, and minimal grading to create a smooth profile would occur with any road widening. The grading activities for the projects would be minor and, as such, would not substantially alter the overall topography of the project area.

[1] Monterey County Water Resources Agency. 2006. *Monterey County Groundwater Management Plan.*

Soil disturbing activities would occur during the construction phase of the Build Alternatives. As a result, excavated soil would be exposed, and there would be increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. Refer to Section 2.10, Water Quality and Storm Water Runoff, for additional information regarding construction-related water quality issues and measures to reduce erosion-related impacts.

2.11.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, there would be no permanent adverse impacts related to geology and seismicity.

Build Alternatives

The Reliz Fault, which possibly runs across the southern portion of the project area, represents the only area where fault-induced surface rupture would possibly occur. The Reliz Fault is not considered active. Therefore, the probability of surface rupture occurring is very low, the possibility of ground rupture impacts is considered low, and no substantial adverse impacts are anticipated. As discussed above, the project area is located in a seismically active region of California, and the improvements included in the Build Alternatives could potentially be subject to seismic ground shaking. The potential to experience substantial seismic ground shaking is a common hazard for projects in California, and the hazard cannot be avoided. However, the Build Alternatives would be designed in accordance with the requirements of the California Department of Transportation (Caltrans) SDC, the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications and California Amendments in order to minimize ground-shaking impacts. Therefore, impacts would not be adverse.

Secondary effects of seismic shaking have a high probability of occurring on site and include liquefaction, lateral spreading, and settlement. The highest liquefaction, lateral spreading, and settlement potential exists in areas associated with the Salinas River Channel. In addition, future investigations could identify localized pockets of liquefiable soil elsewhere along the project alignments. As a result, the Build Alternative could be impacted by liquefaction, lateral spreading, and settlement if an earthquake were to occur. As detailed in Measure GEO-1, the liquefaction, lateral spreading, and settlement potential of the subsurface soils will be evaluated further. If

recommended by the focused geotechnical investigation, the final design will include design features to reduce impacts associated with liquefaction, lateral spreading, and settlement. Therefore, impacts related to liquefaction, lateral spreading, and settlement would not be adverse.

2.11.4 Avoidance, Minimization, and/or Mitigation Measures

All improvements for the Build Alternatives would be designed, constructed, and operated in accordance with all applicable standards.

GEO-1 **Final Geotechnical Report:** During final design, a detailed geotechnical investigation will be conducted by qualified geotechnical personnel to assess the geotechnical conditions at the project area. The geotechnical investigation will include seismic cone penetration tests and exploratory borings to investigate site-specific soils and conditions, as well as the collection of subsurface soil samples for laboratory testing. Those soil samples will be tested to evaluate the potential for liquefaction, lateral spreading, and settlement. The project-specific findings and recommendations of the geotechnical investigation will be summarized in a Structure Foundation Report and a Geotechnical Design Report to be submitted to the California Department of Transportation (Caltrans) for review and approval. Those findings and recommendations will be incorporated in the final design of the selected Build Alternative.

Refer also to Section 2.10, Water Quality and Storm Water Runoff, for additional measures related to soil erosion, including Best Management Practices (BMPs).

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2.12 Paleontology

2.12.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

23 United States Code (USC) 1.9(a) requires that the use of federal-aid funds must be in conformity with federal and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.12.2 Affected Environment

The information in this section is based on the *Extended Phase I Report* (2015), the *Extended Phase I Exploratory Study of the Potential for Buried Archaeological Sites for the Davis Road Bridge Project* (2014), and the *Archaeological Survey Report* (2014) prepared for the proposed project.

Paleontological resources (fossils) are defined as any trace of a past life form. While wood, bones, and shells are the most common fossils, under certain conditions soft tissues, tracks, and trails may be preserved as fossils. Fossils are most commonly found in sedimentary rock layers.

2.12.2.1 Literature Review

A literature review and background research was conducted to identify paleontological resources within and in the vicinity of the project area. The literature review and background research consisted of an examination of geologic maps of the project area, a review of relevant geological and paleontological literature to determine which geologic units are present within the project area and whether fossils have been recovered, and an examination of the *Extended Phase I Exploratory Study of the Potential for Buried Archaeological Sites for the Davis Road Bridge Project* (2014) and *Archaeological Survey Report* (2014).

2.12.2.2 Soil Borings

Six mechanical soil borings were completed as part of the Extended Phase I survey to determine the presence, absence, and potential for paleontological resources to occur

in the project area within the maximum depth of project ground disturbance. The exact locations and numbers of the cores were determined in the field based on existing conditions, physical and safety constraints, and the ongoing results of testing. Refer to Figure 2.12-1 for the soil core locations. The core excavations extended below the maximum depth of grading to allow for a buffer during construction between 10 and 15 feet (ft) below the ground surface. Refer to Table 2.12.1 for the core location, landform and age, soil unit, and depth of the cores.

Table 2.12.1 Core Excavation Summary

Map Reference No.[1]	Location	Landform and Age	Soil Unit	Depth of Cores (ft)
DR-2-1	East side of Davis Road/South Salinas River	Holocene alluvium (Q)	Mocho (MnA)	10
DR-2-2	East side of Davis Road/South Salinas River	Holocene alluvium (Q)	Mocho (MnA)	10
DR-3-1	East side of Davis Road/North Salinas River	Holocene floodplain (Qfl)	Salinas (SbA)	15
DR-4-1	Southeast of Foster Road/Davis Road	Holocene floodplain (Qfl)	Salinas (SbA)	15
DR-5-1	Southeast of Hitchcock Road/Davis Road	Holocene basin (Qb)	Clear Lake (Cg)	15
DR-6-1	Southeast of Blanco Road/Davis Road	Holocene basin (Qb)	Clear Lake (Cg)	15

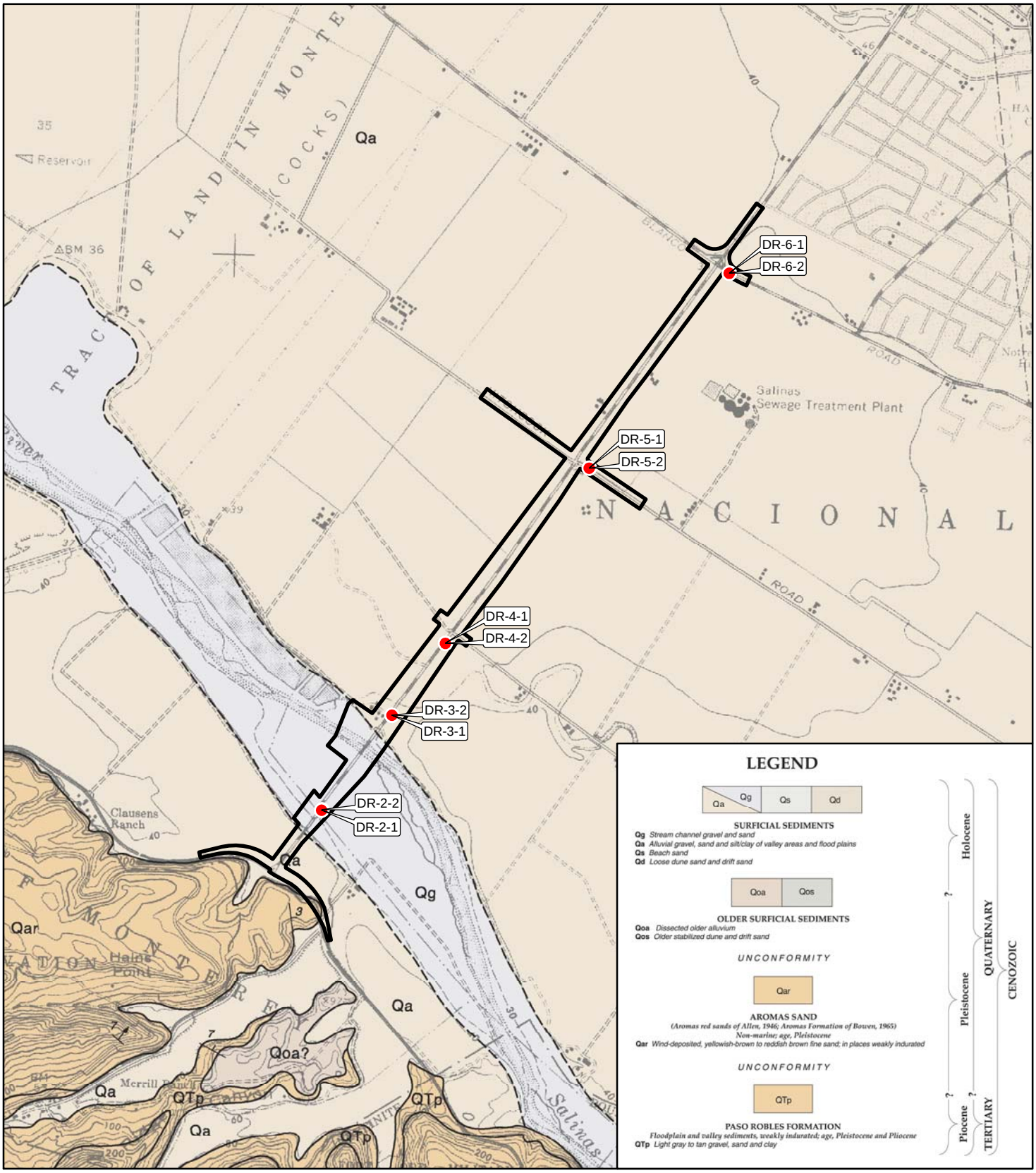
Source: *Extended Phase I Report* (2014).
[1] Excavation locations depicted on Figure 2.12-1.
ft = feet

The soil cores were then examined to identify the soil horizons and geologic units within each soil core. Geologic units were identified on the basis of physical composition, superposition, relative soil development, and/or textural transitions characteristic of discrete depositional cycles.

2.12.2.3 Geology

The project area is located primarily on Holocene sediment from the Salinas River, which includes geologic units such as surficial sediments (Qg and Qa) from the Holocene age and Aromas Sand (Qar) from the Pleistocene age. Holocene surficial sediment (Qg) consists of stream channel gravel and sand. Holocene surficial sediment (Qa) consists of alluvial gravel, sand, and silt/clay of valley areas and floodplains. Aromas Sand (Qar) consists of wind-deposited, yellow-brown to reddish brown fine sand and is located in weakly indurated places.[1] Refer to Figure 2.12-1 for the location of the geologic units in the project area.

[1] Dibblee, T.W., and J.A. Minch. 2007. *Geologic Map of the Marina and Salinas Quadrangles, Monterey County, California*.



LEGEND

Project Area

Boring Location

0 1000 2000

FEET

SOURCE: Dibblee (2007).

FIGURE 2.12-1

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Geologic Map and Boring Locations

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Soils in the project area are mapped generally from southwest to northeast as Xerorthents, Arnold-Santa Ynez complex, Mocho silt loam, Metz complex and Metz fine sandy loam, Psamments and Fluvents, Salinas clay loam, Clear Lake clay, and Cropley silty clay. These soils are estimated to be pre-Quaternary (>2.56 million years) to Historical-Modern in age. Refer to Table 2.12.2 for the landform age units, total acreage of age units, and percentage of age units in the Davis Road corridor. As stated previously, the majority of the project area is underlain by Holocene-age deposits that are too recent for paleontological resources to be encountered. Any plant or animal remains that may be present would not have had sufficient time to fossilize and would also be contemporaneous with modern species; therefore, they are not considered scientifically significant. The youngest deposits in the project area are located within the active channel of the Salinas River. The floodplain consists primarily of recent and latest Holocene-age deposits with some early Holocene fan/floodplain remnants (including at the northeast end of the project area), while the Pleistocene deposits are located on the hillside at the far southwest end of the project area.

Table 2.12.2 Extent of Surface Landform-Age Units in the Davis Road Corridor

Landform-Age Unit	Total Acres	% Total Acres
Water	3.4	3.3
Historical-Modern (Channel)	2.3	2.1
Historical Modern (<150)	4.0	3.8
Recent Holocene (1000-150)	64.8	60.9
Latest Holocene (2000–1000)	28.3	26.6
Early Holocene (11,502–15,000)	1.5	1.4
Late Pleistocene (25,000–15,000)	0.4	0.4
Older Pleistocene (1.9 million years–25,000)	1.6	1.5
Grand Total	**106.3**	**100.0**

Source: *Extended Phase I Report* (2014).

The soil borings in the *Extended Phase I Report* (2015) identified that Holocene deposits extend at least 15 ft below the ground surface. The soil borings identified that the oldest stratum dates back to the Early Holocene at the northern of the project area, approximately 300 centimeters (cm) below the surface (DR-6-1). However, Early Holocene is too recent for paleontological resources to occur. Paleontological resources are generally more likely to occur in Pleistocene or older sediments (over 12,000 years), such as those located at the southwest end of the project area. However, according to an online search, there are no records of fossils being present in the Aromas Sand geologic unit that is mapped on the hillside on the southwest side

of the project.[1] Therefore, there is a low sensitivity for paleontological resources to be encountered in any of the surficial sediments that are mapped within the project area.

2.12.3 Environmental Consequences

2.12.3.1 Temporary Impacts

Impacts to paleontological resources are considered permanent, not temporary, and are discussed below under Permanent Impacts.

2.12.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any impacts to paleontological resources.

Build Alternatives

Construction activities associated with the Build Alternatives include road widening, grading, excavation, demolition of the old bridge, pile driving, installation of bridge footings, construction of the new bridge, regrading of the farm access roads, intersection improvements, relocation of utility poles, and creation of cut-and-fill slopes. Most of the land in the project area has been recently graded and/or cultivated by surrounding agricultural operations.

As stated previously, the soil borings identified the oldest stratum dating back to the Early Holocene, which is located at the northern end of the project area. However, Early Holocene is too recent for significant paleontological resources to occur. The Aromas Sand geologic unit located at the southwest end of the project area is from Pleistocene alluvium. Pleistocene and older sediments (over 12,000 years old) do have the potential for paleontological resources to occur. However, there are no records of fossils occurring in the Aromas Sand in the Salinas Valley area. In addition, the majority of the construction activities along Davis Road and located in these areas would involve minor ground disturbance that would not extend to a depth where fossils occur. Therefore, there is very little potential for paleontological resources to be encountered in these sediments during grading associated with road widening and demolition activities associated with the Build Alternatives.

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[1] United States Geological Survey and Association of American State Geologists. 2014. *National Geologic Map Database*. Website: http://ngmdb.usgs.gov/Geolex/UnitRefs/AromasRefs_4595.html, accessed October 8, 2014.

Installation of the bridge footings would involve excavation to deeper depths where there is a higher potential for fossils to be encountered because it is possible that sediments at deeper depths would be from Pleistocene alluvium. The proposed bridge abutments (bridge end supports) would be constructed of reinforced concrete. Each abutment would include a reinforced concrete footing supported on multiple driven, 2 ft diameter, steel shell piles that are filled with reinforced concrete. The depth of each steel shell pile would be approximately 40 to 60 ft, or more, depending on soil conditions. Therefore, excavation and drilling for the bridge abutments could potentially encounter alluvial sediment from Pleistocene alluvium. However, drilling activities generally grind up and destroy any fossils, thereby making them unrecoverable. In addition, the fossils would be removed from their stratigraphic context, consequently making them less useful for scientific study. Pile driving techniques do not allow the direct observation of sediments at depth, which makes monitoring for and the recovery of fossils impossible. There is a low potential for paleontological resources to occur based on the small impact area of the bridge abutments, and any fossils present would not have a scientific significance based on them being out of context or damaged.

2.12.4 Avoidance, Minimization, and/or Mitigation Measures

Because of the lack of geologic units likely to contain fossils in the project area, no impacts to paleontological resources would occur as a result of the Build Alternatives; therefore, no avoidance, minimization, and/or mitigation measures are required.

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2.13 Hazardous Waste/Materials

2.13.1 Regulatory Setting

Hazardous materials including hazardous substances and wastes are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

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

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

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean-up of

contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

2.13.2 Affected Environment

The information in this section is based on the *Initial Site Assessment* (ISA) (2014) and *Results of Soil Analysis and Site Screening* (2014) prepared for the project. The following were conducted as part of the ISA and the soil analysis and site screening:

- **Environmental Database Review:** This database report compiled a list of sites from a wide collection of local, State, and federal databases pertaining to hazardous materials within approximately 0.5 mile (mi) from the study area. However, the search of the National Priority List (NPL) was within a 1 mi radius.
- **Historical Research:** Aerial photographs, Sanborn Fire Insurance Company maps, topographic maps, and oil and gas maps were reviewed.
- **Interviews:** The City of Salinas Public Works Department was contacted regarding information and operations at the Salinas Industrial Wastewater Treatment Facility (SIWTF).
- **Site Reconnaissance:** On September 20, 2013, a site visit of the study area was conducted to assess the current land uses and to search for visible indications of contamination. On April 10, 2014, soil sampling was conducted to a depth of 2 feet (ft) below ground surface.

The database search regarding sites that generate, store, use, or have released hazardous substances, as specified above, identified six hazardous substance sites within the specified search distances. None of the six identified sites pose hazardous waste concerns for the study area.

Based on information obtained from site observations, prior investigations, and record review, asbestos-containing materials (ACMs), lead-based paint (LBP), metals, aerially deposited lead (ADL), and pesticides are of potential concern for the project area.

2.13.2.1 Asbestos-Containing Materials

The existing bridge over the Salinas River that is to be demolished as part of the proposed project has the possibility of containing asbestos, and some of its components may require special handling or disposal.

2.13.2.2 Lead-Based Paint

It is possible for LBP to be present in the existing bridge over the Salinas River that is to be demolished; therefore, special handling or disposal may be required.

2.13.2.3 Metals

Materials used for road striping may contain elevated levels of metals such as lead or chromium.

2.13.2.4 Aerially Deposited Lead

Lead has been known to be used as a gasoline additive. It is recognized as toxic to human health and the environment and is widely regulated in the United States. Unpaved areas along the shoulders of the roads in the study area may contain ADL derived from tail pipe emissions of vehicles burning leaded fuels. Therefore, soil analysis and site screening were conducted in areas where soil is likely to be disturbed during the construction of the Build Alternatives. As part of the soil analysis, 20 soil samples collected at depth intervals of 0–1 ft and 1–2 ft below the ground surface were tested for total lead concentrations.

The ADL regulatory criteria are related to a hazardous waste variance issued to the California Department of Transportation (Caltrans) by the Department of Toxic Substances Control (DTSC). The variance allows certain materials containing ADL that would normally be considered a hazardous waste to be re-used or contained within the boundaries of a roadway project, subject to specific limitations and conditions. The total threshold limit concentration (TTLC) and soluble threshold limit concentration (STLC) for lead are 1,000 milligrams per kilogram (mg/kg) and 5.0 milligrams per liter (mg/L), respectively. An additional threshold for hazardous materials are health-based screening levels, which are based on exposure assumptions/scenarios and toxicity values. Based on the California Regional Water Quality Control Board (RWQCB) exposure scenarios, the lead health-based screening level for construction workers is 320 mg/kg.

Total lead was detected in each of the 20 samples analyzed at concentrations ranging from 5.9 to 28 mg/kg, with a mean concentration of 14.0 mg/kg. Lead concentrations did not exceed the TTLC of 1,000 mg/kg and did not exceed the health-based

screening level of 320 mg/kg. The total concentrations of lead were below concentrations warranting soluble lead analysis. Based on the soil analysis and site screening, soil may be managed as nonhazardous and used on site without restrictions.

2.13.2.5 Pesticides

Based on the historical agricultural use of the study area, persistent pesticides may remain in soils in the study area. Lands adjacent to the proposed project area have a long history of agricultural use and are likely to have been treated with persistent organic compounds such as organochlorine pesticides (OCPs). As part of the soil analysis described above, 10 samples were collected at depth intervals of 0–1 ft and tested for pesticide concentration. Four OCPs were detected in each of the soil samples collected: dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and dieldrin.

The TTLC for the sum of DDD, DDE, and DDT is 1.0 mg/kg while the STLC for the sum of DDD, DDE, and DDT is 0.1 mg/L. Dieldrin has a TTLC of 8.0 mg/kg and an STLC of 0.8 mg/L. The health-based screening levels used for the analysis are the Environmental Screening Levels established by the California RWQCB for construction/trench workers (i.e., 7.0 mg/kg for DDD, 5.0 mg/kg for DDE, 5.0 mg/kg for DDT, and 0.093 mg/kg for dieldrin).

DDD was present in concentrations ranging from 0.003 to 0.017 mg/kg, with a mean concentration of 0.007 mg/kg. None of the 10 samples exceeded the established Environmental Screening Level of 7.0 mg/kg for DDD. The TTLC and STLC levels were not exceeded.

DDE was present in concentrations ranging from 0.029 to 0.41mg/kg, with a mean concentration of 0.163 mg/kg. None of the 10 samples exceeded the established Environmental Screening Level of 5.0 mg/kg for DDE. The TTLC and STLC levels were not exceeded.

DDT was present in concentrations ranging from 0.023 to 0.30 mg/kg, with a mean concentration of 0.138 mg/kg. None of the 10 samples exceeded the established Environmental Screening Level of 5.0 mg/kg for DDE. The TTLC and STLC levels were not exceeded.

Dieldrin was present in concentrations ranging from 0.014 to 0.078 mg/kg, with a mean concentration of 0.035 mg/kg. Dieldrin did not exceed the established Environmental Screening Level of 0.093 mg/kg or the TTLC of 8.0 mg/kg. Based on the soils analysis and site screening, soils are not hazardous from a disposal standpoint, and do not present a health concern to construction workers on site.

2.13.3 Environmental Consequences

2.13.3.1 Temporary Impacts

No Build Alternative

The No Build Alternative would not result in construction of any of the proposed roadway improvements or a bridge replacement and therefore would not result in temporary adverse impacts to hazardous wastes or materials.

Build Alternatives

The Build Alternatives would involve the demolition of the existing bridge over the Salinas River and disturbance of soils; therefore, hazardous materials (asbestos and LBP in structures, metals in road striping, and ADL and pesticides in soils) may be encountered during construction.

It is possible for asbestos and LBP to be present in the existing bridge over the Salinas River that is to be demolished as a result of the Build Alternatives. Implementation of Measures HAZ-1 and HAZ-2 would determine if specific handling, removal, or disposal requirements are necessary. Implementation of Measures HAZ-1 and HAZ-2 would reduce potential impacts related to asbestos and LBP; therefore, impacts from asbestos and LBP would not be adverse.

Road striping located on the existing roads and bridge within the study area has the possibility of containing metals (e.g., lead chromate) that may require special handling, removal, or disposal requirements. Measure HAZ-3 would reduce potential impacts related to metals in road striping. Therefore, impacts related to hazardous metal in road striping would not be adverse.

Based on the findings of the soil analysis and site screening, lead was detected in shallow soils throughout the project alignment at concentrations that are below hazardous material and health-based screening levels. Therefore on-site soil is considered nonhazardous, would not require special handling or disposal measures, and can be reused on site. Although lead levels are low/below hazardous thresholds, a small potential exists for lead exposure to workers during construction.

Implementation of Measure HAZ-4 would reduce impacts related to potential lead exposures. Therefore, worker exposure to lead would not be adverse.

Based on the findings of the soil analysis and site screening, OCPs were detected in each of the samples analyzed. The concentrations present in the soils are low and are considered nonhazardous. Therefore, no special handling or disposal measure would be required, and all soils can be reused on site. Therefore, impacts related to OCPs would not be adverse.

With any construction and earthmoving operation, there is a potential to encounter or unearth previously unknown hazards. If unknown hazards or contaminations are encountered on site, Measure HAZ-5would reduce potential adverse impacts. Therefore, impacts related to unknown hazardous materials would not be adverse.

Typical hazardous materials used during construction (e.g., solvents, paints, and fuels) would be handled in accordance with standard procedures. There are standard regulations that must be followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials during construction of the proposed project to protect human health and the environment.

2.13.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made and there would be no permanent impacts related to hazardous waste or materials. Routine maintenance activities would continue under the No Build Alternative and would include compliance with applicable regulations regarding the handling and disposal of potentially hazardous materials.

Build Alternatives

Routine maintenance activities during operation of the Build Alternatives would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, the operation of the Build Alternatives would not result in adverse impacts related to hazardous waste or materials.

2.13.4 Avoidance, Minimization, and/or Mitigation Measures

HAZ-1 **Asbestos-Containing Materials:** Prior to completion of Plans, Specifications, and Estimates (PS&E) and demolition of any structures, the County of Monterey shall ensure that asbestos surveys

are conducted on those structures planned for demolition. The asbestos surveys shall be conducted by a licensed consultant and shall include inspection of the existing bridge over the Salinas River and any concrete irrigation or culvert pipes that are planned for removal. The results of these surveys will determine the recommendations for removal, containment, and off-site transportation and disposal, as appropriate.

HAZ-2 **Lead-Based Paint:** Prior to completion of Plans, Specifications, and Estimates (PS&E) and demolition of any structures, the County of Monterey shall ensure that lead-based paint (LBP) surveys are conducted on those structures planned for demolition. LBP surveys shall be conducted by a licensed consultant and shall include inspection of the existing bridge over the Salinas River. The results of these surveys will determine the recommendations for removal, containment, and off-site transportation and disposal, as appropriate.

HAZ-3 **Metals in Road Striping:** Prior to completion of the Plans, Specifications, and Estimates (PS&E) and during construction, the County of Monterey shall ensure that yellow traffic striping and pavement are sampled and tested in accordance with California Department of Transportation (Caltrans) Standard Special Provisions. The results of these surveys will determine the recommendations for removal, containment, and off-site transportation and disposal, as appropriate.

HAZ-4 **Lead Compliance Plan:** The County of Monterey shall include the requirements for a Lead Compliance Plan in any bid and contract document for the project. Prior to grading activities, the construction contractor shall prepare a Lead Compliance Plan in accordance with Caltrans Standard Special Provisions 7-1.02K(6)(j)(iii), the California Code of Regulations, and California Occupational Safety and Health Administration (Cal/OSHA) standards. The Lead Compliance Plan shall address the presence of aerially deposited lead (ADL) in the soils in the project area and the health and safety of construction workers.

HAZ-5 **Unknown Hazards:** The procedures outlined in the Caltrans Unknown Hazards Procedures for Construction (http://www.dot.ca.gov/ser/vol1/sec3/physical/ch10haz/chap10.htm#unant_contam_decision_tree) shall be followed during construction in the event that an unknown hazardous contamination is revealed or unknown hazardous materials/waste are encountered.

2.14 Air Quality

2.14.1 Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel "Conformity" requirement under the FCAA also applies.

2.14.1.1 Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional—or, planning and programming level—and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or

were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP), and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and the TIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Conformity analysis at the project-level includes verification that the project is included in the regional conformity analysis and a "hot-spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures a violation of the relevant standard and the U.S. EPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by U.S. EPA, and are then called "maintenance" areas. "Hot-spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include

some specific procedural and documentation standards for projects that require a "hot-spot" analysis. In general, projects must not cause the "hot-spot" related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

2.14.2 Affected Environment

This section is based on the *Air Quality Assessment Report* (2014) prepared for the proposed project.

2.14.2.1 Climate

The project site is located in northern Monterey County, an area within the southern portion of the North Central Coast Air Basin (NCCAB), which encompasses Monterey, San Benito, and Santa Cruz Counties. Air quality regulation in the NCCAB is administered by the Monterey Bay Unified Air Pollution Control District (MBUAPCD), a regional agency created for the NCCAB.

The NCCAB climate is determined by its terrain and geographical location. The NCCAB is generally bounded by the Diablo Range on the northeast and the southern portion of the Santa Cruz Mountains. The Diablo Range forms the Santa Clara Valley, which extends into the northeastern tip of the NCCAB. Farther south, the Santa Clara Valley transitions into the San Benito Valley, which runs northwest-southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is Salinas Valley, which extends from Salinas at the northwest end to King City at the southeast end. The northwest portion of the NCCAB is dominated by the Santa Cruz Mountains.

Air quality is a function of topography, meteorology, and emissions. The semipermanent high-pressure cell over the Pacific Ocean is the basic controlling factor of the climate in the region. Monterey Bay is a 25-mile (mi) wide inlet that allows marine air at low levels to penetrate the interior.

In the summer, the high-pressure cell is dominant, resulting in persistent west and northwest winds across the majority of coastal California. As air descends in the Pacific High, a stable temperature inversion is formed. As temperatures increase, the warmer air overhead expands, forcing the coastal layer of air to move onshore, producing a moderate sea breeze over the coastal plains and valleys. Temperature

inversions inhibit vertical air movement and often result in increased transport of air pollutants to inland receptor areas.

The generally northwest-southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portions of the Salinas Valley and San Benito Valley creates a weak low pressure, which intensifies the onshore air flow during the afternoon and evening.

In the fall, surface winds become weak and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build over a period of a few days. It is most often during this season that the north or east winds transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB.

In winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of Salinas Valley and San Benito Valley, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep persistent inversions and the occasional storm system usually result in good air quality for the NCCAB as a whole in winter and early spring.

Atmospheric particulates are made up of fine solids or liquids such as soot, dust, aerosols, fumes, and mists. A large portion of the total suspended particulates (TSP) in the atmosphere is PM_{10}. These small particulates cause the greatest health risk of all suspended particulates, since they more easily penetrate the defenses of the human respiratory system. Peak concentrations of PM_{10} occur downwind of precursor emission sources. As with ozone (O_3), a substantial percentage of PM_{10} forms in the atmosphere as a result of chemical reactions.

2.14.2.2 Monitored Air Quality

The MBUAPCD maintains ambient air quality monitoring stations throughout the NCCAB. The air quality monitoring station closest to the project site that monitors all of the criteria pollutants is the Salinas Station. The criteria pollutants monitored at this station are presented in Table 2.14.1. The CO, NO_2, PM_{10}, $PM_{2.5}$, and O_3 levels monitored at this station have not exceeded State and federal standards in the past 3 years.

Table 2.14.1 Local Air Quality Levels

Pollutant	Primary Standard		Year	Maximum Concentration		Number of Days State/ Federal Standard Exceeded
	California	Federal				
Carbon Monoxide (CO)	9.0 ppm for 8 hours	9 ppm for 8 hours	2011	0.99	ppm	0/0
			2012	1.39	ppm	0/0
			2013	NA	ppm	NA/NA
Ozone (O_3) (1-Hour)	0.09 ppm for 1 hour	NA	2011	0.065	ppm	0/NA
			2012	0.071	ppm	0/NA
			2013	0.065	ppm	0/NA
Ozone (O_3) (8-Hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hours	2011	0.056	ppm	0/0
			2012	0.055	ppm	0/0
			2013	0.062	ppm	0/0
Nitrogen Dioxide (NO_2)	0.18 ppm for 1 hour	0.10 ppm for 1 hour	2011	0.040	ppm	0/0
			2012	0.042	ppm	0/0
			2013	0.042	ppm	0/0
Particulate Matter (PM_{10})	50 $\mu g/m^3$ for 24 hours	150 $\mu g/m^3$ for 24 hours	2011	18.0	$\mu g/m^3$	0/0
			2012	NA	$\mu g/m^3$	NA/NA
			2013	NA	$\mu g/m^3$	NA/NA
Fine Particulate Matter ($PM_{2.5}$)	NA	35 $\mu g/m^3$ for 24 hours	2011	19.7	$\mu g/m^3$	NA/0
			2012	16.2	$\mu g/m^3$	NA/0
			2013	19.7	$\mu g/m^3$	NA/0

Source: *Air Quality Assessment Report* (2014).
$\mu g/m^3$ = micrograms per cubic meter
NA = not applicable
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million

2.14.2.3 Sensitive Receptors

Sensitive populations are more susceptible than the general population to the effects of air pollution. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Land uses that are considered to be sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The sensitive receptors within or adjacent to the project area include residences.

2.14.2.4 Criteria Pollutant Attainment/Nonattainment Status

As noted earlier, the six criteria pollutants are CO, NO_2, PM_{10}, $PM_{2.5}$, O_3, SO_2, and lead. Table 2.14.2 lists the primary standards for these criteria pollutants and provides brief descriptions of the health effects associated with exposure to these pollutants as well as typical sources of these pollutants. The NAAQS are two tiered: "Primary," to protect public health, and "Secondary," to prevent degradation to the environment (e.g., impairment of visibility, damage to vegetation and property).

Table 2.14.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[1]	Federal Standard[2]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O_3)[3]	1 hour 8 hours	0.09 ppm 0.070 ppm	---[4] 0.075 ppm[5] (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from ROGs/VOCs and NO_X in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal: Attainment (8-hour) State: Nonattainment (1-hour and 8-hour)
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm[6] 6 ppm	35 ppm 9 ppm ---	Interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Attainment/Unclassified State: Attainment
Respirable Particulate Matter (PM_{10})[3]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 ---[3] (expected number of days above standard ≤ 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Attainment/Unclassified State: Nonattainment
Fine Particulate Matter ($PM_{2.5}$)[3]	24 hours Annual Secondary Standard (annual)	--- 12 µg/m^3 --- 	35 µg/m^3 12.0 µg/m^3 15 µg/m^3 (98th percentile over 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants, including NO_X, SO_X, ammonia, and ROG.	Federal: Attainment/Unclassified State: Attainment
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm[7] (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the "NO_X" group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal: Attainment/Unclassified State: Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours	0.25 ppm --- 0.04 ppm	0.075 ppm[8] (98th percentile over 3 years) 0.5 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/Unclassified State: Attainment

Table 2.14.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[1]	Federal Standard[2]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Lead (Pb)[9]	Monthly Rolling 3-month average	1.5 µg/m^3 ---	--- 0.15 µg/m^3 [10]	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Federal: Attainment/Unclassified State: Attainment
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Federal: Attainment/Unclassified State: Attainment/Unclassified
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Federal: Attainment/Unclassified State: Attainment/Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 percent	---	Reduces visibility. Produces haze. NOTE: Not related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas.	See particulate matter above.	Federal: Attainment/Unclassified State: Attainment/Unclassified
Vinyl Chloride[9]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Federal: Attainment/Unclassified State: Attainment/Unclassified

Sources: *Air Quality Assessment Report* (2014).

Footnotes provided on the following page.

Table 2.14.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

[1] State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as described above.

[2] Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

[3] Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hour $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ NAAQS tightened from 15 µg/m^3 to 12 µg/m^3 December 2012, and secondary standard set at 15 µg/m^3.

[4] Prior to June 2005, the 1-hour NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still in use in some areas where 8-hour ozone emission budgets have not been developed, such as in the San Francisco Bay Area.

[5] The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (July 20, 2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with a emission budget, EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

[6] Rounding to an integer value is not allowed for the State 8-hour CO standard. Violation occurs at or above 9.05 ppm.

[7] Final 1-hour NO_2 NAAQS published in the Federal Register on February 9, 2010, effective March 9, 2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot-spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

[8] The EPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of September 2012.

[9] The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and the EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for substantial health effects due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

[10] Lead NAAQS are not considered in Transportation Conformity analysis.

µg/m^3 = micrograms per cubic meter
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
NAAQS = national ambient air quality standards
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppb = parts per billion
ppm = parts per million
ROG = reactive organic gases
SIP = State Implementation Plan
SO_X = sulfur oxides
VOC = volatile organic compounds

Air quality monitoring stations are located throughout the nation and maintained by the local air districts and State air quality regulating agencies. Data collected at permanent monitoring stations are used by the EPA to identify regions as "attainment," "nonattainment," or "maintenance," depending on whether the regions meet the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of nonattainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS. Table 2.14.2 lists the attainment statuses for each of the criteria pollutants in the NCCAB. Ozone and PM_{10} are the only pollutants within the NCCAB that have a nonattainment status.

2.14.3 Environmental Consequences

2.14.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary impacts to air quality.

Build Alternatives

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction activities. Emissions from construction equipment are expected and would include CO, nitrogen oxides (NO_X), volatile organic compounds (VOCs), directly-emitted particulate matter (PM_{10} and $PM_{2.5}$), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO_X and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction typically involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air quality from most roadway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, NO_X, and VOCs and cause concern. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying

uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment in operation. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_X, VOCs, and some soot particulate (PM_{10} and $PM_{2.5}$) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 parts per million [ppm] sulfur), and as such, SO_2-related issues due to diesel exhaust would be minimal.

Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site(s). Such odors would be quickly dispersed below detectable thresholds as distance from the site(s) increases.

The daily disturbed area for the proposed project is anticipated to be less than 8 acres (ac). In addition, the maximum excavation area is anticipated to be less than 2 ac. This level of activity is below the MBUAPCD threshold for projects where grading and excavation are required. In those cases where daily watering is insufficient to keep visible dust from blowing or being tracked off site, the MBUAPCD outlines minimization measures for reducing PM_{10} (Measure AQ-7). In addition, implementation of Measure AQ-1 would require compliance with California Department of Transportation (Caltrans) Standard Specifications (Section 14.9.03) regarding dust minimization requirements that would reduce dust emissions during construction. Therefore, with implementation of standard construction practices, temporary impacts related to air quality would not be adverse.

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

Naturally Occurring Asbestos

The proposed project is located in Monterey County, which is among the counties listed as containing serpentine and ultramafic rock. However, the project area is not in a region of the County of Monterey that has been identified as containing serpentine or ultramafic rock. Therefore, the impact from naturally occurring asbestos (NOA) during construction activities would be minimal to none.

2.14.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent impacts to air quality.

Build Alternatives

Regional Conformity

The proposed project is listed in the 2035 Metropolitan Transportation Plan's (MTP's) financially constrained RTP, which was adopted by the Association of Monterey Bay Area Governments (AMBAG) Board on June 11, 2014. The project is also included in the AMBAG financially constrained Federal Fiscal Year (FFY) 2014–2015 to 2017–2018 Metropolitan Transportation Improvement Program (MTIP), page 18 of Appendix B: Monterey County Projects-2014 MTIP. The AMBAG FFY 2014–2015 to 2017–2018 MTIP was approved by FHWA and FTA on December 15, 2014. As noted above in Table 2.14.2, the NCCAB is designated as being in attainment with the NAAQS for all criteria pollutants; therefore, regional conformity requirements do not apply. The design concept and scope of the proposed project is consistent with the project description in the 2035 MTP, FFY 2014–2015 to 2017–2018 MTIP, and the "open to traffic" assumptions of the AMBAG regional emissions analysis.

Project-Level Conformity

Carbon Monoxide Screening Analysis

The methodology required for CO local analysis is summarized in the Caltrans Transportation Project-Level Carbon Monoxide Protocol (Protocol), Section 3 (Determination of Project Requirements) and Section 4 (Local Analysis). Section

3 of the Protocol provides two conformity requirement decision flowcharts designed to assist project sponsors in evaluating the requirements that apply to specific projects. The flowchart in Figure 1 of the Protocol applies to new projects and was used in this local analysis conformity decision. Below is a step-by-step explanation of the flowchart. Each level cited is followed by a response, which in turn determines the next applicable level of the flowchart for the project. The flowchart begins with Section 3.1.1:

- **3.1.1 Is this project exempt from all emissions analyses?**
  NO.

  Table 1 of the Protocol is Table 2 of Section 93.126. Section 3.1.1 is inquiring if the project is exempt. Such projects appear in Table 1 of the Protocol. Bridge replacement and road widening projects like the proposed project do not appear in Table 1. Therefore, the proposed project is not exempt from all emissions analyses.

- **3.1.2. Is the project exempt from regional emissions analyses?**
  NO.

  Table 2 of the Protocol is Table 3 of Section 93.127. The question is attempting to determine whether the proposed project is listed in Table 2. The proposed project would widen Davis Road. Therefore, it is not exempt from regional emissions analysis.

- **3.1.3. Is the project locally defined as regionally significant?**
  YES.

  As discussed above, the proposed project would widen Davis Road. Therefore, it is defined as regionally significant.

- **3.1.4. Is the project in a federal attainment area?**
  YES.

- **3.1.4a. Is the project in a California attainment area?**
  YES.

- **3.1.9. Examine local impacts.**
  Section 3.1.9 of the flowchart directs the project evaluation to Section 4 (Local Analysis) of the Protocol. This concludes Figure 1 of the CO Protocol.

Likewise, Section 4 of the CO Protocol contains Figure 3. This flowchart is used to determine the type of CO analysis required for the proposed project. Below is a step-by-step explanation of the flowchart. Each level cited is followed by a response, which would determine the next applicable level of the flowchart for the proposed project. The flowchart begins at level 1:

- **Level 1. Is the project in a CO non-attainment area?**
  NO.

  The project site is located in an area that has demonstrated attainment with the federal CO standard.

- **Level 1 (cont.). Was the area redesignated as "attainment" after the 1990 Clean Air Act?**
  YES.

- **Level 1 (cont.). Has "continued attainment" been verified with the local Air District, if appropriate?**
  YES.

- **Level 7. Does the project worsen air quality?**
  NO.

  Because none of the following conditions (listed in Section 4.7.1 of the CO Protocol) is met, the proposed project would not potentially worsen air quality.

  a. The project significantly increases the percentage of vehicles operating in cold start mode. Increasing the number of vehicles operating in cold start mode by as little as 2% should be considered potentially significant.

  The percentage of vehicles operating in cold start mode is the same as or lower for the road segment under study when compared to those used for the intersection in the attainment plan. It is assumed that all vehicles on Davis Road are in a fully warmed up mode. Therefore, this criterion is not met.

  b. The project significantly increases traffic volumes. Increases in traffic volumes in excess of 5% should be considered potentially significant.

Increasing the traffic volume by less than 5% may still be potentially significant if there is also a reduction in average speeds.

As shown in Tables 2.14.3 and 2.14.4, the proposed project would not increase traffic along Davis Road. Therefore, this criterion is not met.

Table 2.14.3 Existing Daily Traffic on Davis Road

Roadway Segment	Without Project (ADT)	With Project (ADT)	Project-Related Increase in Traffic (ADT)
Between Blanco and Hitchcock Roads	9,010	9,010	0
Between Hitchcock and Foster Roads	6,027	6,027	0
Between Foster and Reservation Roads	5,386	5,386	0

Source: *Traffic Impact Study* (2014).
ADT = average daily traffic

Table 2.14.4 2040 Daily Traffic on Davis Road

Roadway Segment	Without Project (ADT)	With Project (ADT)	Project-Related Increase in Traffic (ADT)
Between Blanco and Hitchcock Roads	32,121	32,121	0
Between Hitchcock and Foster Roads	30,410	30,410	0
Between Foster and Reservation Roads	29,822	29,822	0

Source: *Traffic Impact Study* (2014).
ADT = average daily traffic

c. *The project worsens traffic flow. For uninterrupted roadway segments, a reduction in average speeds (within a range of 3 to 50 mph) should be regarded as worsening traffic flow. For intersection segments, a reduction in average speed or an increase in average delay should be considered as worsening traffic flow.*

   As indicated in Tables 2.14.5 and 2.14.6, the project improves level of service (LOS) at a majority of the intersections in the project area. Therefore, this criterion is not met.

The project is not expected to result in any concentrations exceeding the 1-hour or 8-hour CO standards. Therefore, the proposed project is consistent with the regional emissions analysis.

Table 2.14.5 Intersection Analysis – Existing Conditions

Intersection	Peak Hour	No Build Alternative		Build Alternative	
		Control Delay (sec)	LOS	Control Delay (sec)	LOS
1. Davis Road/Blanco Road	AM	35.5	D	34.7	C
	PM	40.8	D	34.8	C
2. Davis Road/Hitchcock Road	AM	18.1	C	21.2	C
	PM	26.6	D	24.5	C
3. Davis Road/Foster Road	AM	14.6	B	14.1	B
	PM	18.6	C	15.3	C
4. Davis Road/SIWTF Driveway	AM	12.7	B	10.4	B
	PM	13.6	B	10.1	B
5. Davis Road/Reservation Road	AM	17.6	B	11.7	B
	PM	26.2	C	15.4	B

Source: *Traffic Impact Study* (2014).
LOS = level of service
sec = seconds
SIWTF = Salinas Industrial Wastewater Treatment Facility

Table 2.14.6 Intersection Analysis – Year 2040 Conditions

Intersection	Peak Hour	No Build Alternative		Build Alternative	
		Control Delay (sec)	LOS	Control Delay (sec)	LOS
1. Davis Road/Blanco Road	AM	254.2	F	240.3	F
	PM	113.3	F	77.0	E
2. Davis Road/Hitchcock Road	AM	[1]	F	[1]	F
	PM	[1]	F	[1]	F
3. Davis Road/Foster Road	AM	[1]	F	[1]	F
	PM	[1]	F	470.4	F
4. Davis Road/SIWTF Driveway	AM	715.4	F	32.5	D
	PM	120.5	F	16.0	C
5. Davis Road/Reservation Road	AM	575.5	F	87.3	F
	PM	222.1	F	32.5	C

Source: *Traffic Impact Study* (2014).
[1] Delay exceeds calculable range
LOS = level of service
sec = seconds
SIWTF = Salinas Industrial Wastewater Treatment Facility

Particulate Matter (PM_{10} and $PM_{2.5}$)

The proposed project is located within a federal attainment area for PM_{10} and $PM_{2.5}$. Therefore, a particulate matter hot-spot analysis is not required for conformity purposes.

Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the EPA also regulates air toxics. Most air toxics originate from human-made sources,

including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Controlling air toxic emissions became a national priority with the passage of the FCAA Amendments of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA assessed this expansive list in its latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register 2007) and in that assessment identified a group of 93 compounds emitted from mobile sources that are listed in its Integrated Risk Information System (IRIS). In addition, the EPA identified seven compounds with significant contributions from mobile sources that are among the national- and regional-scale cancer risk drivers from its 1999 National Air Toxics Assessment (NATA): acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (DPM), formaldehyde, naphthalene, and polycyclic organic matter (POM). While the FHWA considers these seven compounds to be the priority Mobile Source Air Toxics (MSAT), the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Based on an FHWA analysis using EPA's MOVES2010b model, as shown on Figure 2.14-1, even if vehicle miles traveled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period. The projected reduction in MSAT emissions would be slightly different in California due to the use of the EMFAC emission model in place of the Motor Vehicle Emission Simulator (MOVES) model.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

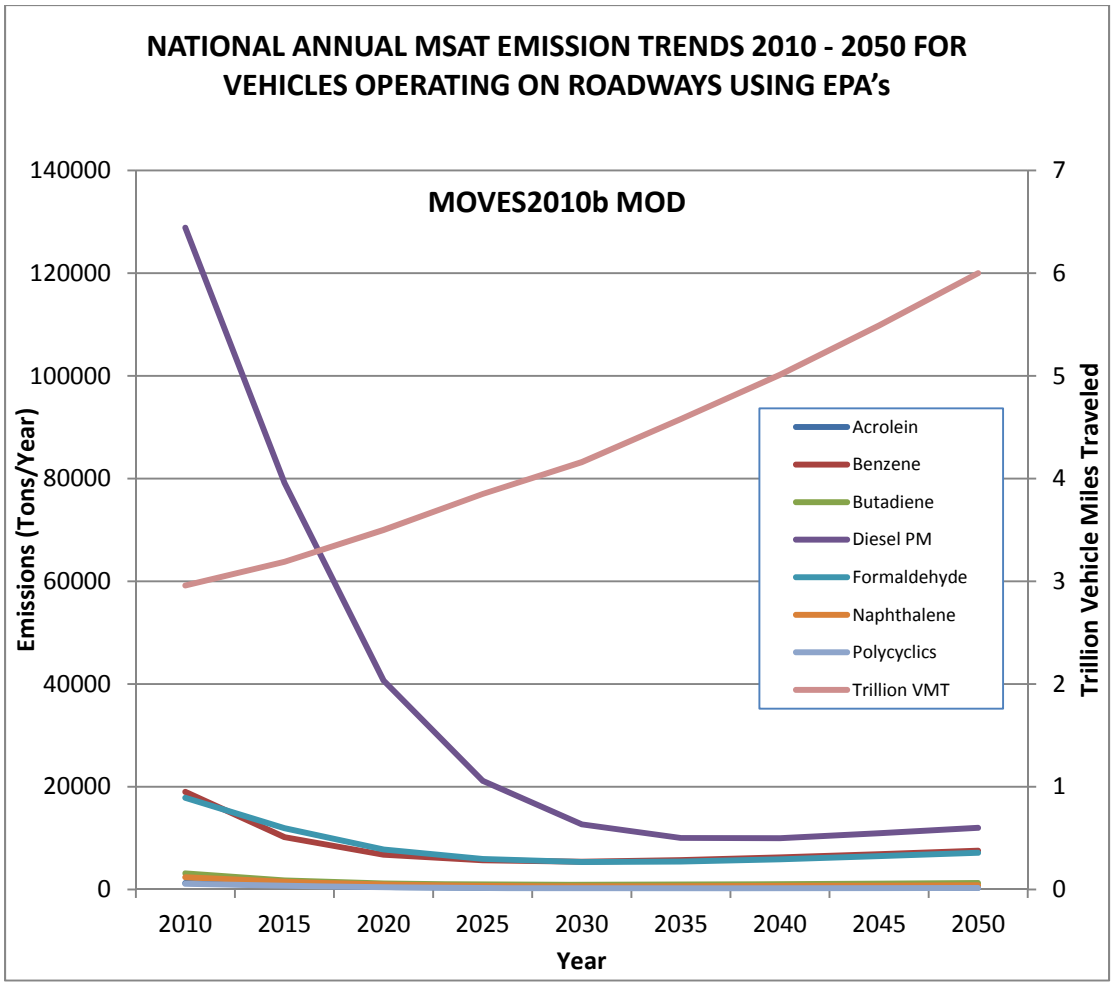

Figure 2.14-1 National MSAT Emission Trends

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, the EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

NEPA requires, to the fullest extent possible, the policies, regulations, and laws of the federal government to be interpreted and administered in accordance with its environmental protection goals. NEPA also requires federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. NEPA requires, and FHWA is committed to, the examination and avoidance of potential impacts to the natural and human

environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulations at 23 CFR Part 771.

In December 2012, the FHWA issued guidance to advise FHWA division offices as to when and how to analyze MSATs in the NEPA process for highways. That document is an update to the guidance released in February 2006 and September 2009. The guidance is described as interim because MSAT science is still evolving. As the science progresses, FHWA will update the guidance. This analysis follows the FHWA guidance.

Information that is Unavailable or Incomplete

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the FCAA and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects." Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute. Two Health Effects Institute studies are summarized in Appendix D of the FHWA's Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents.

Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and the final determination of health impacts, with each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways, to determine the portion of time that people are actually exposed at a specific location, and to establish the extent that is attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, which is a concern expressed by the Health Effects Institute. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for DPM. The EPA and the Health Effects Institute have not established a basis for quantitative risk assessment of DPM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the FCAA to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The

decision framework is a two-step process. The first step requires the EPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld the EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against project benefits such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, which are better suited for quantitative analysis.

MSAT Analysis Methodology

Depending on the specific project circumstances, the FHWA has identified three levels of analysis:

1. **Projects with No Meaningful Potential MSAT Effects, or Exempt Projects:** The types of projects included in this category are:

    a. Projects qualifying as a Categorical Exclusion under 23 CFR 771.117(c) (subject to consideration whether unusual circumstances exist under 23 CFR 771.117(b));
    b. Projects exempt under the Clean Air Act Conformity Rule under 40 CFR 93.126; or
    c. Other projects with no meaningful impacts on traffic volumes or vehicle mix.

For projects that are categorically excluded under 23 CFR 771.117(c), or that are exempt from conformity requirements under the Clean Air Act pursuant to 40 CFR 93.126, no analysis or discussion of MSAT is necessary. Documentation sufficient to demonstrate that the project qualifies as a Categorical Exclusion and/or exempt project will suffice. For other projects with no or negligible traffic impacts, regardless of the class of NEPA environmental document, no MSAT analysis is recommended. However, the project record should document the basis for the determination of "no meaningful potential impacts" with a brief description of the factors considered.

2. **Projects with Low Potential MSAT Effects:** The types of projects included in this category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. This category covers a broad range of projects.

   It is anticipated that most highway projects that need an MSAT assessment will fall into this category. Any projects not meeting the criteria in Category (1) or Category (3) below should be included in this category. Examples of these types of projects are minor widening projects, new interchanges or replacement of a signalized intersection on a surface street, or projects where design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic (AADT).

   For these projects, a qualitative assessment of emissions projections should be conducted. This qualitative assessment would compare, in narrative form, the expected effect of the project on traffic volumes, vehicle mix, or routing of traffic and the associated changes in MSAT for the project alternatives, including No Build Alternative, based on VMT, vehicle mix, and speed. It would also discuss national trend data projecting substantial overall reductions in emissions due to stricter engine and fuel regulations issued by the EPA. Because the emission effects of these projects are typically low, it is expected that there would be no appreciable difference in overall MSAT emissions among the various alternatives.

3. **Projects with Higher Potential MSAT Effects:** This category includes projects that have the potential for meaningful differences in MSAT emissions

among project alternatives. It is expected that a limited number of projects would meet this two-pronged test. To fall into this category, a project should:

a. Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of DPM in a single location, involving a significant number of diesel vehicles for new projects or accommodating a significant increase in the number of diesel vehicles for expansion projects; or
b. Create new capacity or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000 or greater by the design year.

The project should also be proposed to be located in proximity to populated areas.

Projects falling within this category should be more rigorously assessed for impacts. For these projects, a quantitative assessment of emissions projections should be conducted. This approach would include a quantitative analysis to forecast local-specific emission trends of the priority MSAT for each alternative for use as a basis of comparison.

As indicated in Tables 2.14.3 through 2.14.6, the proposed project would not increase the traffic volumes along Davis Road or worsen the delay at any of the intersections within the project area. Consequently, this proposed project is considered to have no meaningful potential MSAT effects. Therefore, a quantitative analysis of MSAT emissions is not required.

2.14.3.3 Climate Change

Climate change is analyzed in detail in Chapter 3, California Environmental Quality Act Evaluation. Neither the EPA nor FHWA has issued explicit guidance or methods to conduct project-level greenhouse gas (GHG) analysis. As stated on FHWA's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), 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 aid 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 easily 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.

Because there have been more requirements set forth in California legislation and Executive Orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter (Chapter 3) of this environmental document and may be used to inform the NEPA decision. The four strategies set forth by FHWA to lessen climate change impacts correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; those strategies are improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

2.14.4 Avoidance, Minimization, and/or Mitigation Measures

Most of the construction impacts to air quality are short-term in duration and therefore would not result in long-term adverse conditions. Implementation of the following avoidance, minimization, and/or mitigation measures would reduce any air quality impacts resulting from construction activities:

AQ-1 **Caltrans Standard Specifications for Construction Section 14-9:** During construction, the Construction Contractor shall comply with California Department of Transportation (Caltrans) Standard Specifications for Construction Section 14-9.

- Section 14-9.02 specifically requires compliance by the Construction Contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
- Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18 of the Caltrans Standard Specifications for Construction.

AQ-2 **Construction Equipment:** Prior to the start of construction, the Construction Contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency. The construction contractor shall ensure that construction grading plans include a statement that all construction equipment shall be tuned and maintained in accordance with the manufacturers' specifications.

AQ-3 **Construction Grading Plans:** Prior to the start of construction, the Construction Contractor shall ensure that construction grading plans include a statement that work crews shall shut off equipment when not in use.

AQ-4 **Construction Timing:** During construction, the Construction Contractor shall time the construction activities so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways.

AQ-5 **Ridesharing and Transit Incentives:** During construction, the Construction Contractor shall support and encourage ridesharing and transit incentives for the construction crew.

AQ-6 **Diesel Construction Equipment:** During construction, the Construction Contractor shall use California Air Resources Board (ARB) approved on-road diesel fuel in all diesel construction equipment when available.

AQ-7 **MBUAPCD Dust Minimization Measures:** During construction and in the event that daily watering is insufficient to keep visible dust from blowing, the construction contractor shall implement the following Monterey Bay Unified Air Pollution Control District (MBUAPCD) California Environmental Quality Act (CEQA) Air Quality Guidelines dust minimization measures:

- All active construction sites shall be watered at least twice daily. Frequency shall be based on the type of operation, soil, and wind exposure.
- All grading activities shall be prohibited during periods of high wind (over 15 miles per hour [mph]).
- Chemical soil stabilizers shall be applied on inactive construction areas. Inactive construction areas are defined as disturbed lands within construction projects that are unused for at least four consecutive days.
- Nontoxic binders (e.g., latex acrylic copolymer) shall be applied to exposed areas after cut-and-fill operations and to hydroseed areas.
- Haul trucks shall maintain at least a 2-foot freeboard.

- All trucks hauling dirt, sand, or loose material shall be covered.
- In areas adjacent to open land, tree windbreaks shall be planted on the windward perimeter of the construction area.
- Vegetative ground cover shall be planted in disturbed areas as soon as possible.
- Inactive storage piles shall be covered to prevent wind erosion.
- Wheel washers shall be installed at the entrances to construction sites for all exiting trucks.
- All roads at the construction site shall be paved.
- Streets shall be swept if visible soil material is carried out from the construction site.
- A publicly visible sign with the telephone number and person to contact regarding dust complaints shall be posted at the construction site. This person shall respond and take corrective action within 48 hours of a complaint. The phone number of the MBUAPCD shall also be visible to ensure compliance with Rule 402 (nuisance).
- The area under construction shall be limited (i.e., grading shall be limited to 6 acres per day).

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2.15 Noise

2.15.1 Regulatory Setting

The National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

2.15.1.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA 23 Code of Federal Regulations (CFR) 772 noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

2.15.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with the Federal Highway Administration (FHWA) (and the Department of Transportation, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations [CFR] 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). Table 2.15.1 lists the noise abatement criteria for use in the NEPA 23 CFR 772 analysis.

Figure 2.15-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Table 2.15.1 Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, $L_{eq}(h)$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B1	67 (Exterior)	Residential.
C1	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

[1] Includes undeveloped lands permitted for this activity category.
$L_{eq}(h)$ = 1-hour A-weighted equivalent continuous sound level
NAC = Noise Abatement Criteria

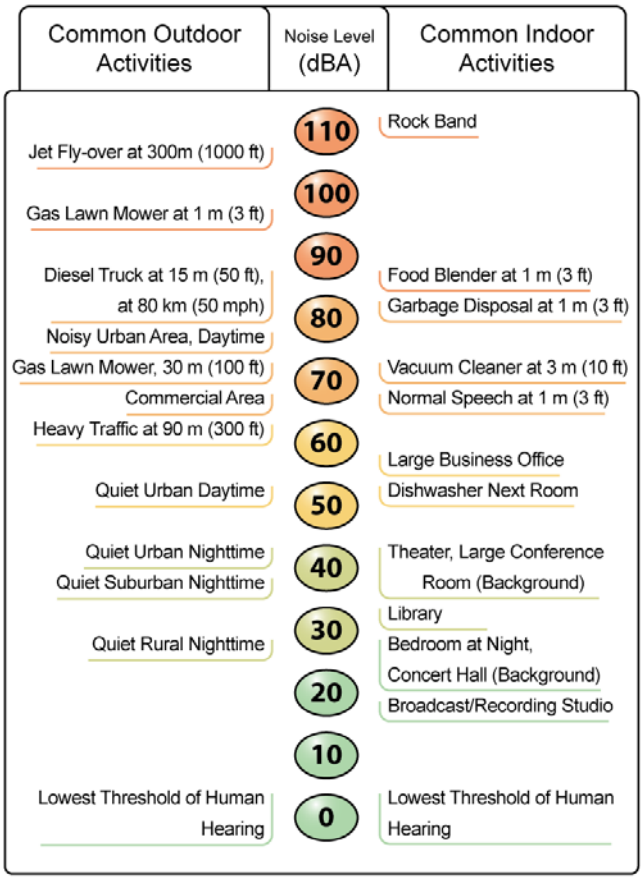

Figure 2.15-1 Noise Levels of Common Activities

According to the Department of Transportation's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects*, May 2011, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

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

2.15.2 Affected Environment

The information in this section is based on the *Noise Study Report* (NSR) (2014) and the *Noise Abatement Decision Report* (NADR) (2014) prepared for the project.

2.15.2.1 Surrounding Land Use and Sensitive Receptors

Field investigation and review of land use maps and aerial photographs were conducted to identify land uses that could be subject to traffic and construction noise from the proposed project. Land uses in the project area were categorized by land use type, by Activity Category as defined in Table 2.15.1, and by the extent of frequent human use. Existing land uses in the project area are described below in further detail:

- **Davis Road, South of Reservation Road:** Land uses in this area include multifamily residences and a recreational area (tennis courts). The multifamily residences within the project area are located up to 80 feet (ft) higher than Reservation Road while the tennis courts are located similar in elevation to

Reservation Road. The multifamily residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq} (equivalent continuous sound level measured in A-weighted decibels). The tennis courts were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.

- **Davis Road, Between Reservation Road and Blanco Road:** Land uses in this area include single-family residences and agricultural uses. These land uses are similar in elevation to Davis Road. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Agricultural uses that have no outdoor frequent human use areas were classified under Activity Category F for reporting purposes.

Existing noise-sensitive land uses within the project area include single-family and multifamily residences and recreational uses. Existing land uses in the project area are represented as receptor locations on Figure 2.15-2.

2.15.2.2 Existing Noise Levels

The primary source of noise in the project area is traffic on Davis Road. Short-term noise measurements were conducted at representative receptor locations in the vicinity of the Build Alternatives to document existing noise levels in the study area. Due to existing low traffic volumes and possible equipment damage, it was determined that long-term measurements were not necessary.

A total of eight short-term, 20-minute noise measurements were conducted to document existing noise levels at representative receptor locations. The short-term measurements were conducted using the Larson Davis Model 831 Type 1 sound level meter. Of the 8 measurements taken, 5 were used to calibrate the noise model and to predict the noise level at all 24 modeled receptors in the study area. The short-term measurement locations and modeled receptor locations are shown on Figure 2.15-2.

As shown on Tables 2.15.3 and 2.15.4 (provided later), none of the 24 modeled receptors approach or exceed their respective NAC levels.

2.15.3 Environmental Consequences

The proposed project is classified as a Type 1 project because federal aid would be used to add a through lane in each direction to the existing Davis Road, from Reservation Road to Blanco Road. The potential short- and long-term noise impacts of the No Build and Build Alternatives are described in the following sections.

R-12
R-8
R-1
R-10
R-11
R-9
R-2
R-7
R-3
R-6
R-5
R-4
ST-1
Reservation Rd
182+43
182+00
181+00
180+00
179+00
178+00
Davis Rd
177+00
176+00
175+00
174+00
173+00
ST-2
R-13
R-14
ST-3

LEGEND

- Monitoring Locations
- Modeled Receptor Locations
- Modeled Noise Barrier
- Preferred Alternative Alignment

0 100 200
FEET

SOURCE: Eagle Aerial (2/11/2010)

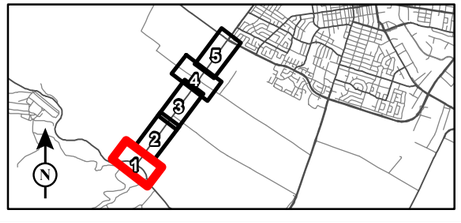

FIGURE 2.15-2
Sheet 1 of 5

Davis Road Bridge Replacement and Road Widening Project

Monitoring and Receptor Locations and Modeled Noise Barriers

Federal Project Number BRLS-5944 (068)
Monterey County, California

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LEGEND

- Monitoring Locations
- Modeled Receptor Locations
- Modeled Noise Barrier
- Preferred Alternative Alignment

0 100 200
FEET

SOURCE: Eagle Aerial (2/11/2010)

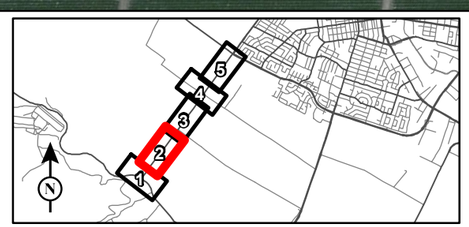

FIGURE 2.15-2
Sheet 2 of 5

Davis Road Bridge Replacement and Road Widening Project

Monitoring and Receptor Locations and Modeled Noise Barriers

Federal Project Number BRLS-5944 (068)
Monterey County, California

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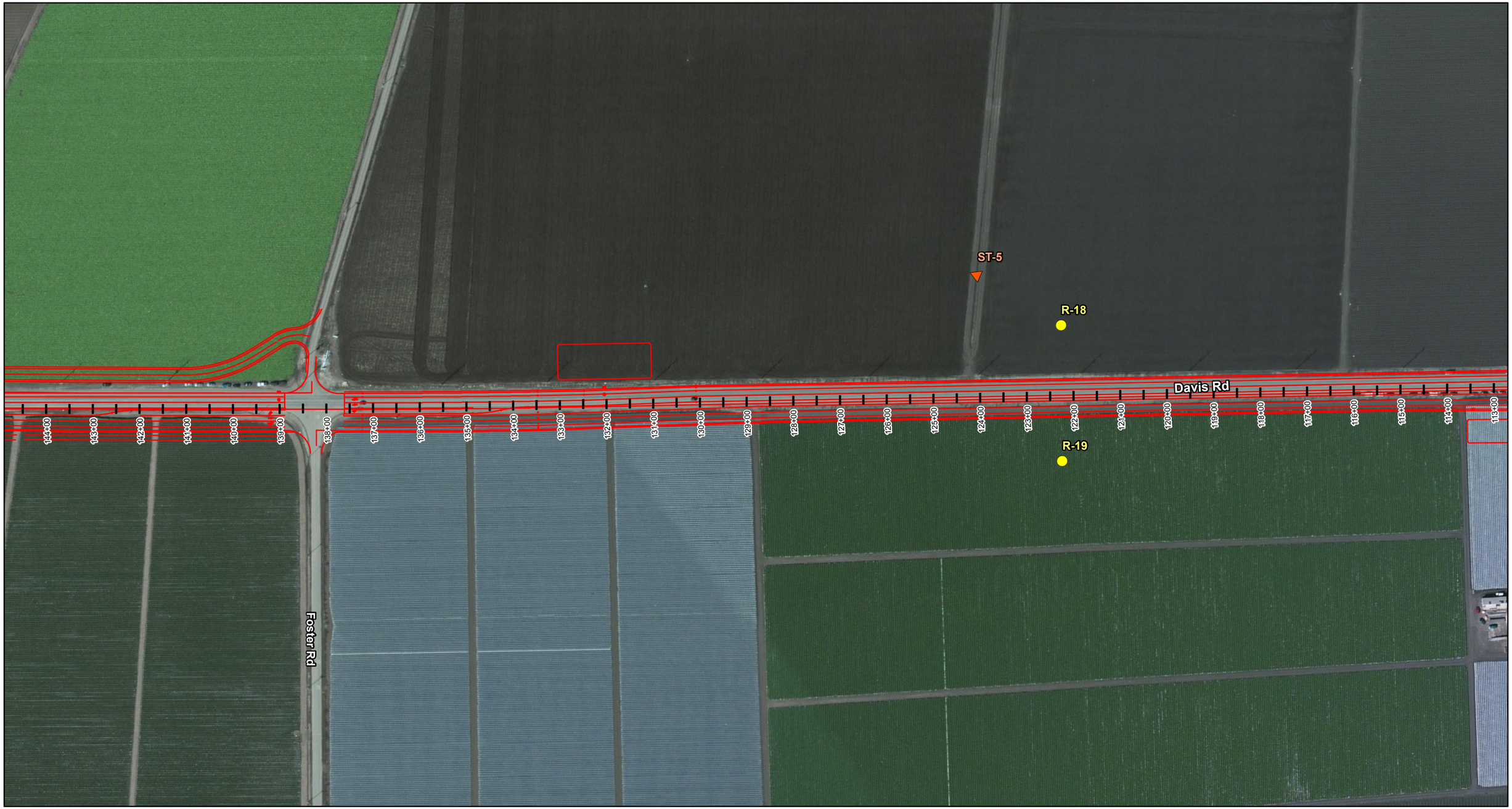

LEGEND

- Monitoring Locations
- Modeled Receptor Locations
- Modeled Noise Barrier
- Preferred Alternative Alignment

0 100 200
FEET

SOURCE: Eagle Aerial (2/11/2010)

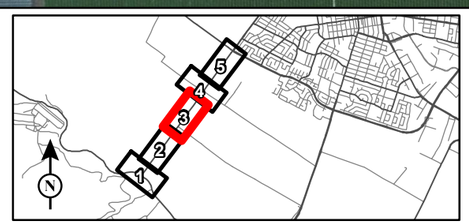

FIGURE 2.15-2
Sheet 3 of 5

Davis Road Bridge Replacement and Road Widening Project

Monitoring and Receptor Locations and Modeled Noise Barriers

Federal Project Number BRLS-5944 (068)
Monterey County, California

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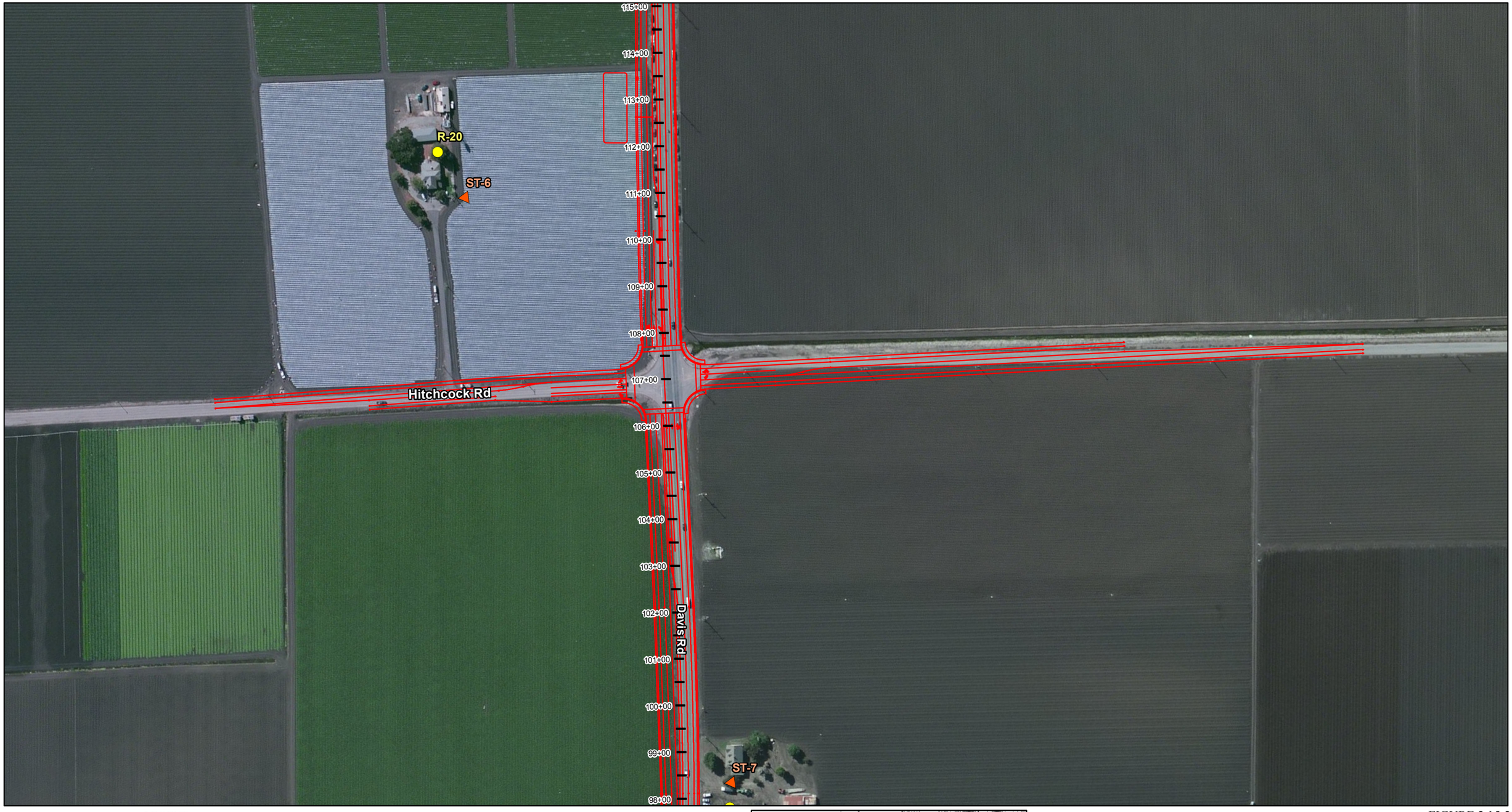

LEGEND

- Monitoring Locations
- Modeled Receptor Locations
- Modeled Noise Barrier
- Preferred Alternative Alignment

0 100 200
FEET

SOURCE: Eagle Aerial (2/11/2010)

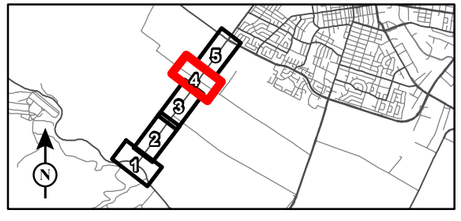

FIGURE 2.15-2
Sheet 4 of 5

Davis Road Bridge Replacement and Road Widening Project

Monitoring and Receptor Locations and Modeled Noise Barriers

Federal Project Number BRLS-5944 (068)
Monterey County, California

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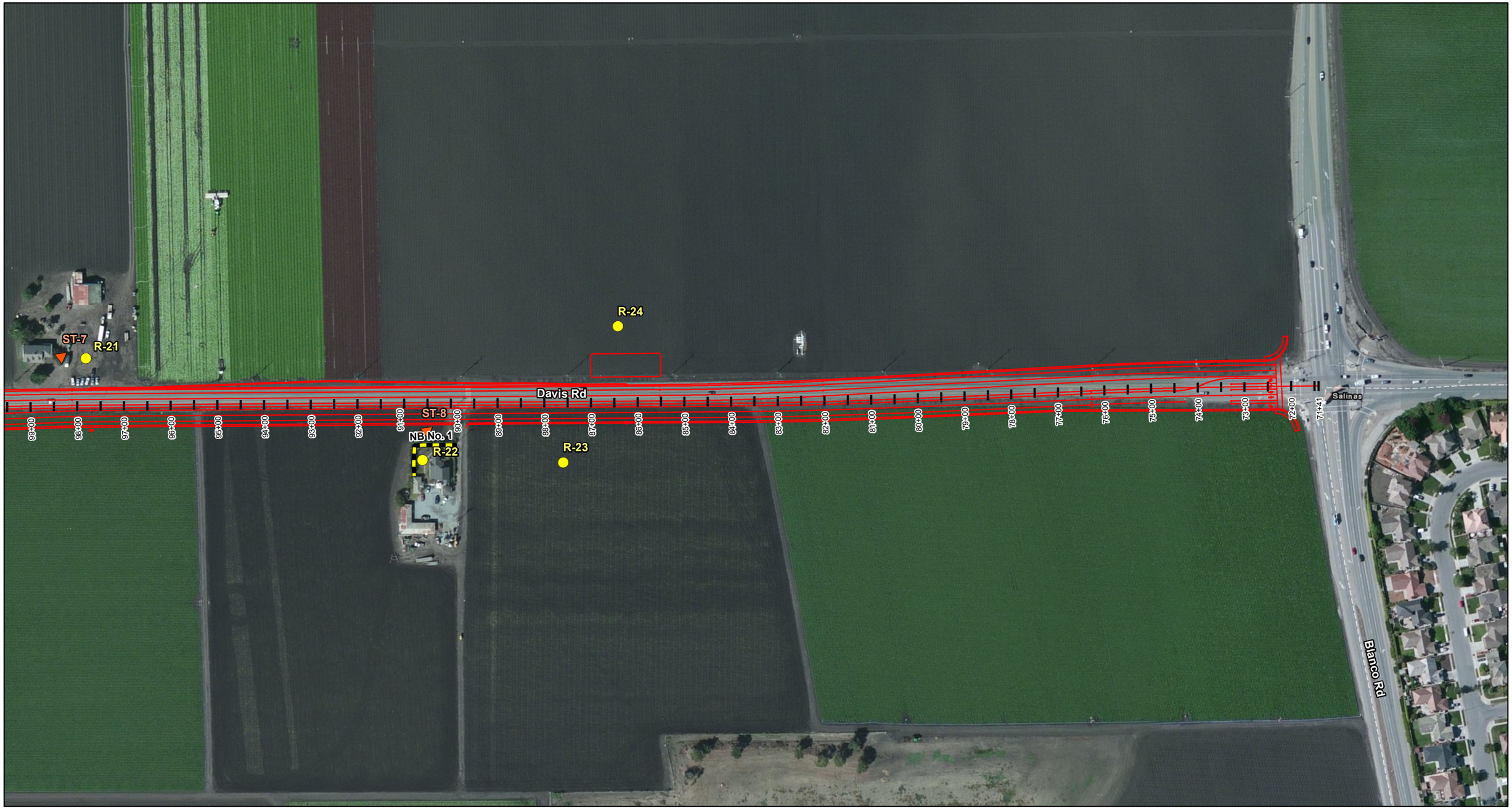

LEGEND

- Monitoring Locations
- Modeled Receptor Locations
- Modeled Noise Barrier
- Preferred Alternative Alignment

0 100 200
FEET

SOURCE: Eagle Aerial (2/11/2010)

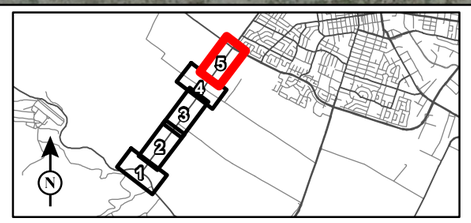

FIGURE 2.15-2
Sheet 5 of 5

Davis Road Bridge Replacement and Road Widening Project

Monitoring and Receptor Locations and Modeled Noise Barriers

Federal Project Number BRLS-5944 (068)
Monterey County, California

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2.15.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary adverse impacts related to noise.

Build Alternatives

Two types of short-term noise impacts would occur during project construction. The first type of construction noise would be from construction crew commutes and the transport of construction equipment and materials to the project site, which would incrementally raise noise levels on access roads leading to the project site. The pieces of heavy equipment for grading and construction activities would be moved onto the project site, would remain for the duration of each construction phase, and would not add to the daily traffic volumes in the project vicinity. A high single-event noise exposure potential at a maximum level of 75 dBA L_{max} (maximum instantaneous noise level measured in A-weighted decibels) from trucks passing at 50 ft would exist. The projected traffic volumes from construction crew commutes would be minimal compared to existing traffic volumes on Davis Road and other affected streets, and the change in noise level as a result of the increased traffic associated with construction worker commutes would not be perceptible. Therefore, there would not be an adverse increase in noise associated with short-term, construction-related worker commutes and equipment transport.

The second type of short-term noise impact is related to noise generated during roadway construction. Construction is performed in discrete steps, each of which has its own mix of equipment and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels within the project area as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 2.15.2 lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 ft between a piece of construction equipment and a noise receptor.

Typical noise levels at 50 ft from an active construction area range up to 86 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is the earthmoving equipment. Earthmoving equipment

Table 2.15.2 Typical Construction Equipment Noise Levels

Type of Equipment	Actual Maximum Sound Levels at 50 ft (dBA)
Backhoe	78
Crane	81
Bulldozer	82
Drill Rig Truck	79
Dump Truck	76
Excavator	81
Flat Bed Truck	74
Front End Loader	79
Generator	81
Impact Pile Driver	101
Jackhammer	89
Pickup/Water Truck	75
Pneumatic Tools	85
Pumps	81
Roller	80
Scraper	84

Source: *Noise Study Report* (2014).
dBA = A-weighted decibels
ft = feet

includes excavating machinery such as backfillers, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require the use of earthmovers, bulldozers, water trucks, and pickup trucks. Noise associated with the use of construction equipment is estimated between 75 and 84 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. As seen in Table 2.15.2, the maximum noise level generated by each scraper is assumed to be approximately 84 dBA L_{max} at 50 ft from the scraper in operation. Each bulldozer would generate approximately 82 dBA L_{max} at 50 ft. The maximum noise level generated by water trucks and pickup trucks is approximately 75 dBA L_{max} at 50 ft from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 86 dBA L_{max} at a distance of 50 ft from an active construction area.

The closest sensitive receptors are located within 50 ft and approximately 140 ft from project construction areas under the Preferred Alternative and Alternative 2,

respectively. Sensitive receptor locations under the Preferred Alternative may be subject to short-term noise higher than 86 dBA L_{max} generated by construction activities along the project alignment while sensitive receptors under Alternative 2 may be subject to short-term noise of 78 dBA L_{max}.

Measure N-1 requires compliance with the California Department of Transportation (Caltrans) Standard Special Specification 14-8.02 to minimize construction-related noise. Measure N-2 requires compliance with the noise level standards specified in the Monterey County Code of Ordinances, Section 10.60.030, to limit noise levels within 50 ft of construction equipment. With compliance to Measures N-1 and N-2, the short-term noise impacts during project construction would not be adverse.

2.15.4 Permanent Impacts

2.15.4.1 No Build Alternative

Potential long-term noise impacts for No Build conditions were considered assuming only traffic noise. Traffic noise was evaluated for the worst-case traffic condition or the projected 2038 peak-hour traffic volumes, whichever was lower. Future traffic noise levels at the 24 receptor locations were determined with existing property line walls.

The Existing and Future No Build noise levels are presented in Tables 2.15.3 and 2.15.4. Of the 24 receptor locations, noise levels at Receptor R-21 would approach or exceed the NAC under Category B for the 2038 No Build Alternative

2.15.4.2 Preferred Alternative

The existing and predicted future noise levels at the 24 receptors for the Preferred Alternative are provided in Table 2.15.3.

Potential long-term noise impacts associated with operations of the Preferred Alternative are solely from traffic noise. Traffic noise was evaluated for the worst-case traffic condition. Future traffic noise levels at the 24 receptor locations were determined with existing property line walls using the future (2038) peak-hour traffic volumes or the worst-case traffic operations. Traffic noise impacts result from one or more of the following occurrences: (1) if the traffic noise level at a receptor location is predicted to “approach or exceed” the NAC applicable to the land use at that receptor, or (2) if the predicted traffic noise level is 12 dBA or more over its corresponding modeled existing noise level at the receptor location analyzed. When traffic noise impacts occur, noise abatement measures must be considered.

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Table 2.15.3 Predicted Future Noise and Noise Barrier Analysis for the Preferred Alternative

Receptor No.	NB No.	Location	Land Use	No. of Dwelling Units / Receptors	Existing Noise Level, dBA $L_{eq}(h)$	Future Worst-Hour Noise Levels, dBA $L_{eq}(h)$																						
						2038 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
R-1		Reservation Road	Residential	1	45	49	52	3	7	B(67)	None	--[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-2		Reservation Road	Residential	1	47	51	54	3	7	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-3		Reservation Road	Residential	2	46	51	54	3	8	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-4		Reservation Road	Residential	2	49	54	56	2	7	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-5		Reservation Road	Residential	1	50	54	57	3	7	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-6		Reservation Road	Residential	1	49	53	56	3	7	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-7		Reservation Road	Residential	1	45	49	53	4	8	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-8		Reservation Road	Residential	2	40	44	47	3	7	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-9		Reservation Road	Residential	2	42	46	49	3	7	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-10		Reservation Road	Residential	2	42	45	47	2	5	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-11		Reservation Road	Residential	1	44	47	50	3	6	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-12		Reservation Road	Recreation	1	48	51	53	2	5	C(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-13		Reservation Road	Residential	3	49	52	54	2	5	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-14		Davis Road	Agricultural	N/A	57	62	65	3	8	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-15		Davis Road	Agricultural	N/A	56	61	63	2	7	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-16		Davis Road	Agricultural	N/A	58	64	68	4	10	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-17		Davis Road	Agricultural	N/A	59	64	69	5	10	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-18		Davis Road	Agricultural	N/A	56	61	65	4	9	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-19		Davis Road	Agricultural	N/A	57	61	67	6	10	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-20		Hitchcock Road	Residential	1	47	50	56	6	9	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-21		Davis Road	Residential	1	65	**68**[3]	**72**[3]	4	7	B(67)	A/E[4]	NF[5]	NF[5]	--	NF[5]	NF[5]	--	NF[5]	NF[5]	--	NF[5]	NF[5]	--	NF[5]	NF[5]	--	NF[5]	NF[5]	--
R-22	1	Davis Road	Residential	1	61	64	**72**[3]	8	11	B(67)	A/E	**66**[3,6]	6[6]	1	63[6]	9[6]	1	61[6]	11[6]	1	60	12[6]	1	59[6]	13[6]	1	58[6]	14[6]	1
R-23		Davis Road	Agricultural	N/A	62	65	71	6	9	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-24		Davis Road	Agricultural	N/A	63	65	67	2	4	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Source: *Noise Study Report* (2014).

[1] I.L.: Insertion Loss.

[2] No barrier was analyzed at this location because the modeled receptor would not approach or exceed the NAC.

[3] Numbers in **bold** represent noise levels that approach or exceed the NAC.

[4] A/E = Approach or exceed the NAC.

[5] NF = Not Feasible.

[6] Underlined noise levels have been attenuated by at least 5 dBA (i.e., feasible barrier height).

dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels
ft = feet
N/A = not applicable
NAC = Noise Abatement Criteria
NB = Noise Barrier

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Table 2.15.4 Predicted Future Noise for Alternative 2

Receptor No.	NB No.	Location	Land Use	No. of Dwelling Units / Receptors	Existing Noise Level, dBA $L_{eq}(h)$	Future Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2038 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
R-1		Reservation Road	Residential	1	45	49	49	0	4	B(67)	None	--[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-2		Reservation Road	Residential	1	47	51	51	0	4	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-3		Reservation Road	Residential	2	46	51	51	0	5	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-4		Reservation Road	Residential	2	49	54	54	0	5	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-5		Reservation Road	Residential	1	50	54	54	0	4	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-6		Reservation Road	Residential	1	49	53	53	0	4	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-7		Reservation Road	Residential	1	45	49	49	0	4	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-8		Reservation Road	Residential	2	40	44	44	0	4	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-9		Reservation Road	Residential	2	42	46	47	1	5	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-10		Reservation Road	Residential	2	42	45	45	0	3	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-11		Reservation Road	Residential	1	44	47	47	0	3	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-12		Reservation Road	Recreation	1	48	51	51	0	3	C(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-13		Reservation Road	Residential	3	49	52	52	0	3	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-14		Davis Road	Agricultural	N/A	57	62	62	0	5	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-15		Davis Road	Agricultural	N/A	56	61	61	0	5	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-16		Davis Road	Agricultural	N/A	58	64	63	-1	5	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-17		Davis Road	Agricultural	N/A	59	64	64	0	5	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-18		Davis Road	Agricultural	N/A	56	61	--[3]	--[3]	--[3]	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-19		Davis Road	Agricultural	N/A	57	61	--[3]	--[3]	--[3]	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-20		Hitchcock Road	Residential	1	47	50	--[3]	--[3]	--[3]	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-21		Davis Road	Residential	1	65	**68**[4]	--[3]	--[3]	--[3]	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-22		Davis Road	Residential	1	61	64	--[3]	--[3]	--[3]	B(67)	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-23		Davis Road	Agricultural	N/A	62	65	--[3]	--[3]	--[3]	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-24		Davis Road	Agricultural	N/A	63	65	--[3]	--[3]	--[3]	F	None	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Source: *Noise Study Report* (2014).

[1] I.L.: Insertion Loss.

[2] No barrier was analyzed at this location because the modeled receptor would not approach or exceed the NAC.

[3] Shaded cells represent receptors that are located beyond the limits of construction under Alternative 2.

[4] Numbers in **bold** represent noise levels that approach or exceed the NAC.

dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels
ft = feet
N/A = not applicable
NAC = Noise Abatement Criteria
NB = noise barrier

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Of the 24 modeled receptor locations, noise levels at two receptors would approach or exceed the NAC under Category B for the Preferred Alternative. Therefore, noise abatement measures to reduce noise levels at two receptor locations where noise levels would approach or exceed the NAC under Category B were evaluated and are discussed in Section 2.15.5.2. The two receptor locations are summarized below:

- **Receptor R-21:** This receptor location represents an existing residence located along the west side of Davis Road between Hitchcock Road and Blanco Road. Currently there are no existing walls that shield this residence.
- **Receptor R-22:** This receptor location represents an existing residence located along the east side of Davis Road between Hitchcock Road and Blanco Road. Currently there are no existing walls that shield this residence

None of the 24 receptors would experience a noise level increase of 12 dBA or more over existing levels under the Preferred Alternative.

2.15.4.3 Alternative 2

The existing and predicted future noise levels at the 17 receptors for Alternative 2 are provided in Table 2.15.4.

Potential long-term noise impacts associated with operations of the Alternative 2 are solely from traffic noise. Traffic noise was evaluated for the worst-case traffic condition. Future traffic noise levels at the 17 receptor locations were determined with existing property line walls using the future (2038) peak-hour traffic volumes or the worst-case traffic operations.

None of the 17 receptors would approach or exceed the NAC under any category for the Alternative 2. None of the 24 receptors would experience a noise level increase of 12 dBA or more over existing levels under Alternative 2. Therefore, Alternative 2 would not result in any adverse noise impacts associated with project operations.

2.15.5 Avoidance, Minimization, and/or Abatement Measures

2.15.5.1 Measures for Noise Effects during Construction

The following measures would avoid and/or minimize construction noise impacts:

N-1 **Caltrans Standard Specifications:** During construction, the California Department of Transportation (Caltrans) will require the Construction Contractor to control noise from construction activities in conformance with Caltrans Standard Specification 14-8.02, “Noise

Control." In addition, the Construction Contractor shall equip all internal combustion engines with the manufacturer-recommended mufflers and shall not operate any internal combustion engine on the job site without the appropriate muffler.

N-2 **Monterey County Noise Levels:** Caltrans and/or the County of Monterey will require the Construction Contractors to comply with the allowable noise levels at specified distances from construction activities in accordance with Section 10.60.030 of the Monterey County Code. Section 10.60.030 of the Monterey County Code prohibits the operation of any machine, mechanism, device, or contrivance that produces a noise level exceeding 85 A-weighted decibels (dBA) measured 50 feet (ft) therefrom. If noise from construction equipment exceeds 85 dBA, then attenuation measures must be utilized, including temporary construction barriers and/or quieter equipment. The prohibition in this section shall not apply to aircraft nor to any such machine, mechanism, device, or contrivance that is operated in excess of 2,500 ft from any occupied dwelling unit.

2.15.5.2 Noise Abatement Consideration for Noise Effects during Project Operation

NAC are only exceeded at two receptors for the Preferred Alternative; therefore, the following analysis of noise abatement is only applicable for the Preferred Alternative. In accordance with 23 CFR 772, noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Potential noise abatement measures identified in the Caltrans Traffic Noise Analysis Protocol include the following:

- Avoid the impact by using design alternatives (e.g., altering the horizontal and vertical alignment of the project).
- Construct noise barriers.
- Acquire property to serve as a buffer zone.
- Use traffic management measures to regulate types of vehicles and speeds.
- Acoustically insulate public use or nonprofit institutional structures.

All these abatement options have been considered. However, because of the configuration and location of the project, abatement in the form of noise barriers is the only abatement that is considered to be feasible.

Noise Barrier Feasibility

A minimum noise reduction of 5 dBA must be achieved at impacted receptors for a proposed noise abatement measure (i.e., noise barriers) to be considered feasible. The feasibility criterion is not necessarily a noise abatement design goal. Greater noise reductions are encouraged if they can be reasonably achieved. Feasibility may be restricted by the following factors:

- Geometric standards
- Safety
- Maintenance contracts with private property owners
- Security
- Underground utilities
- Drainage
- Geotechnical considerations

The following two receptors were considered for feasibility of noise abatement:

- **Receptor R-21:** This receptor location represents an existing residence located along the west side of Davis Road between Hitchcock Road and Blanco Road. Currently there are no existing walls that shield this residence. Because there is property access from Davis Road, it is not feasible to abate traffic noise with noise barriers.
- **Receptor R-22:** This receptor location represents an existing residence located along the east side of Davis Road between Hitchcock Road and Blanco Road. Currently there are no existing walls that shield this residence. Because there is property access from Davis Road, it is not feasible to abate traffic noise with noise barriers along the street right-of-way. However, as a secondary acceptable location, a noise barrier (NB No. 1) was evaluated within the private property to shield the noise sensitive portion of the property at this residence.

NB No. 1 would be located within private property, between the residence and Davis Road, and would benefit a single residence located along the east side of Davis Road, as shown on Figure 2.15-2. The noise barrier was evaluated at height increments of 2 ft, ranging between 6 ft and 16 ft, to determine the feasibility of reducing noise at the receptor location impacted by the Preferred Alternative. Table 2.15.5 summarizes the feasibility of the modeled noise barrier, lists the noise barrier height, approximate length, the receptor benefited, the noise attenuation range, the number of benefited units/receptors, the reasonable allowance per benefited unit/receptor, and the total

Table 2.15.5 Summary of Feasible Noise Barriers from the Noise Study Report

Barrier	Location	Noise Barrier Length (ft)	Height (ft)	Noise Attenuation (dBA)	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance
NB No. 1	Private Property Line	172	6	6	1	$64,000	$64,000
			8[1]	9	1	$64,000	$64,000
			10	11	1	$64,000	$64,000
			12	12	1	$64,000	$64,000
			14	13	1	$64,000	$64,000
			16	14	1	$64,000	$64,000

Source: *Noise Study Report* (2014).
[1] Denotes the minimum wall height required to break the line of sight between the receiver and truck exhaust stack.
dBA = A-weighted decibels
ft = feet
NB= noise barrier

reasonable allowance. The one modeled noise barrier evaluated for the Preferred Alternative was determined to be feasible. For the noise barrier found to be acoustically feasible, a reasonable cost allowance was also calculated as shown in Table 2.15.5.

Noise Barrier Reasonableness

The noise barrier considered feasible was analyzed to determine its reasonableness. The overall reasonableness of noise abatement is determined by considering the noise reduction goal combined with the construction cost of the barrier. For a noise barrier to be considered reasonable, the noise level reduction design goal of 7 dBA must be achieved at one or more of the benefited receptors. For any noise barrier to be considered reasonable from a cost perspective, the estimated construction cost of the noise barrier would be equal to or less than the total cost allowance calculated for the barrier. The total reasonable allowance was determined based on the reasonable allowance per residence, which is based on a 2014 allowance of $64,000 per benefited unit/receptor. If the estimated noise barrier construction cost exceeds the total reasonable allowance, the noise barrier is determined to be not reasonable. Based on construction costs it was determined that NB No. 1 was not reasonable at any height for the Preferred Alternative. The summary of reasonableness for NB No. 1 is shown in Table 2.15.6. Therefore, no noise abatement was determined to be feasible and reasonable for the project, and no noise barriers would be constructed with implementation of the Preferred Alternative.

Table 2.15.6 Summary of Abatement Key Information

Barrier	Length (ft)	Height (ft)	Noise Attenuation (dBA)	Number of Benefited Residences[1]	Total Reasonable Allowance	Estimated Construction Cost[2]	Reasonable?
NB No. 1	172	6	6	-[3]	-	-	-
		8[4]	9	1	$64,000	$103,200	No
		10	11	1	$64,000	$129,000	No
		12	12	1	$64,000	$154,800	No
		14	13	1	$64,000	$180,600	No
		16	14	1	$64,000	$206,400	No

Source: *Noise Abatement Decision Report* (2014).

[1] Number of units that are attenuated by 5 dBA or more by the modeled barrier.

[2] Sound barrier construction cost information provided by TRC Solutions, Inc. Cost assumes $75 per square foot. Cost per square foot assumes materials, excavation and installation. Cost does not include right of way or maintenance costs.

[3] Shaded area represents barrier heights that have been determined to be not reasonable because the barrier would not reduce noise levels by 7 dBA or more.

[4] Denotes the minimum wall height required to break the line of sight between the receiver and truck exhaust stack.

dBA= A-weighted decibels
ft = feet
NB= noise barrier

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2.16 Energy

2.16.1 Regulatory Setting

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

The California Environmental Quality Act (CEQA) Guidelines, Appendix F, Energy Conservation, state that Environmental Impact Reports (EIRs) are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

2.16.2 Affected Environment

Energy consumption associated with vehicular movement along Davis Road is almost entirely confined to the consumption of fossil fuels (gasoline and diesel).Currently, a nominal amount of electricity is consumed in the project study area to power existing streetlights and traffic signals. As part of the design for the proposed project, additional streetlights will be installed across the bridge and at intersection improvements.

2.16.3 Environmental Consequences

2.16.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary adverse impacts related to energy.

Build Alternatives

Construction of the Preferred Alternative and Alternative 2 would entail a one-time expenditure to manufacture building materials, prepare the roadway surface, construct the new bridge, widen Davis Road, remove the old bridge, and make intersection improvements. The one-time energy expenditure would potentially be offset by the improved system functionality and improved traffic flow and design life of the project.

The Build Alternatives may require nighttime construction activities that would result in a nominal increase in electricity consumption, but would be limited to the

construction phase of the project. Nonrenewable resources such as fossil fuels would be used during construction of the project; however, the project-related consumption would not cause a substantial depletion in the supplies of this resource and therefore is not considered adverse

2.16.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent adverse impacts related to energy. However, because the No Build Alternative would not improve transportation efficiencies or relieve traffic congestion along Davis Road, it would not result in potential energy savings that could be achieved under the Build Alternatives as discussed below.

Preferred Alternative

Implementation of the Preferred Alternative would alleviate existing traffic congestion and improve local circulation along the corridor. The design of the Preferred Alternative includes the addition of streetlights along the new bridge and at intersections along Davis Road. The design of the Preferred Alternative also includes adding a traffic signal at the Davis Road/Hitchcock Road intersection. The additional energy that would be used during project operations to power new streetlights and a new traffic signal would be nominal. Therefore, the energy that would be saved in relieving congestion and other transportation efficiencies along Davis Road would outweigh the energy that would be used to power new streetlights and a new traffic signal. Therefore, the Preferred Alternative would not have substantial adverse energy impacts.

Alternative 2

Similar to the Preferred Alternative, Alternative 2 would include streetlights along the new bridge and at intersections along Davis Road. Alternative 2 does not include a new traffic signal at the Davis Road/Hitchcock Road intersection. As stated previously, Alternative 2 does not include the additional lanes along Davis Road and therefore would not result in improved traffic flow that could potentially offset the additional energy usage associated with new streetlights. Therefore, implementation of Alternative 2 would result in a slight increase in energy use due to the addition of streetlights along the bridge and at intersections along Davis Road. The addition of streetlights would result in an incremental increase of energy use, but the increase

would be nominal and therefore would not result in substantial adverse energy impacts.

2.16.4 Avoidance, Minimization, and/or Mitigation Measures

There are no temporary or permanent adverse energy impacts as a result of the Build Alternatives; therefore, no avoidance, minimization, and/or mitigation measures are required.

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BIOLOGICAL ENVIRONMENT

2.17 Natural Communities

2.17.1 Regulatory Setting

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

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in Section 2.21, Threatened and Endangered Species. Wetlands and other waters are discussed in Section 2.18.

2.17.2 Affected Environment

The information in this section is based on the *Natural Environment Study* (NES) (2014) prepared for the proposed project.

2.17.2.1 Biological Study Area

The project is located in the lower Salinas River Valley within an extensive agricultural landscape. The biological study area (BSA) encompasses the entire project footprint plus adjacent areas that could be affected by the proposed project. Along most of Davis Road, the BSA extends approximately 100 to 150 feet (ft) from the pavement edge. Within the Salinas River Channel, the BSA extends about 400 ft downstream and 200 ft upstream from the pavement edge. The BSA is wider at the river crossing because a temporary construction access road is planned for the area downstream of the existing road crossing, and the Salinas River Channel is where most of the sensitive biological resources within the BSA are located. The area of the BSA is about 108.19 acres (ac). Areas of natural vegetation in the BSA are largely limited to the riparian corridor of the Salinas River, with a small area of natural vegetation fringing the BSA along the west side of Reservation Road. The rest of the BSA is occupied by the Davis Road Corridor and adjacent agricultural lands that are primarily used to grow row crops (e.g., vegetables, lettuce, and strawberries). The BSA is depicted later on Figure 2.17-1.

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Ambrose Drive

D

AG

RW

Blanco Road

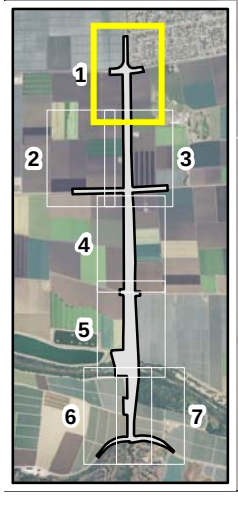
AG

AG

Davis Road

see Sheet 2

see Sheet 3



Biological Study Area

Proposed Bridge

Land Cover Types

- Coast Live Oak (CLO)
- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Ornamental Tree (OT)
- Agriculture (AG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)
- Ruderal (R)
- Roadway (RD)
- Unvegetated (U)
- Developed (D)

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.17-1
Sheet 1 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Land Cover Types

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see Sheet 1

see Sheet 3

Hitchcock Road

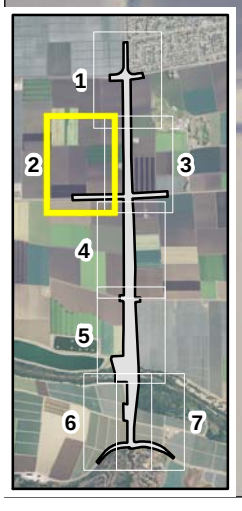
AG

RW

AG

Aq

see Sheet 4



Biological Study Area

Proposed Bridge

Land Cover Types

- Coast Live Oak (CLO)
- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Ornamental Tree (OT)
- Agriculture (AG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)
- Ruderal (R)
- Roadway (RD)
- Unvegetated (U)
- Developed (D)

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.17-1
Sheet 2 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Land Cover Types

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Biological Study Area

Proposed Bridge

Land Cover Types

- Coast Live Oak (CLO)
- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Ornamental Tree (OT)
- Agriculture (AG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)
- Ruderal (R)
- Roadway (RD)
- Unvegetated (U)
- Developed (D)

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.17-1
Sheet 3 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Land Cover Types

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see Sheet 2

see Sheet 3

Davis Road

AG

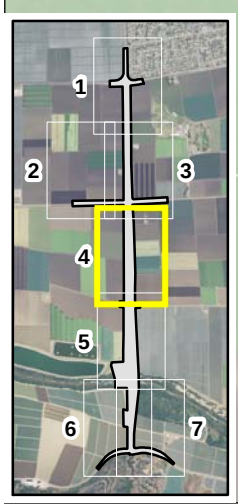
RW

AG

see Sheet 5

Foster Road

AG



Biological Study Area

Proposed Bridge

Land Cover Types

- Coast Live Oak (CLO)
- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Ornamental Tree (OT)
- Agriculture (AG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)
- Ruderal (R)
- Roadway (RD)
- Unvegetated (U)
- Developed (D)

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.17-1
Sheet 4 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Land Cover Types

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see Sheet 4

AG

AG

RW

Foster Road

AG

AG

Davis Road

OT

OT

OT

SW

U

R

U

RW

R

AWT

CM

Aq

SWT

AWT

AG

EG

R

RWT

Aq

CM

CM

SWT

RWT

BCF

Existing Bridge

Salinas River

see Sheet 6

see Sheet 7

1

2

3

4

5

6

7

Biological Study Area

Proposed Bridge

Land Cover Types

- Coast Live Oak (CLO)
- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Ornamental Tree (OT)
- Agriculture (AG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)
- Ruderal (R)
- Roadway (RD)
- Unvegetated (U)
- Developed (D)

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.17-1
Sheet 5 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Land Cover Types

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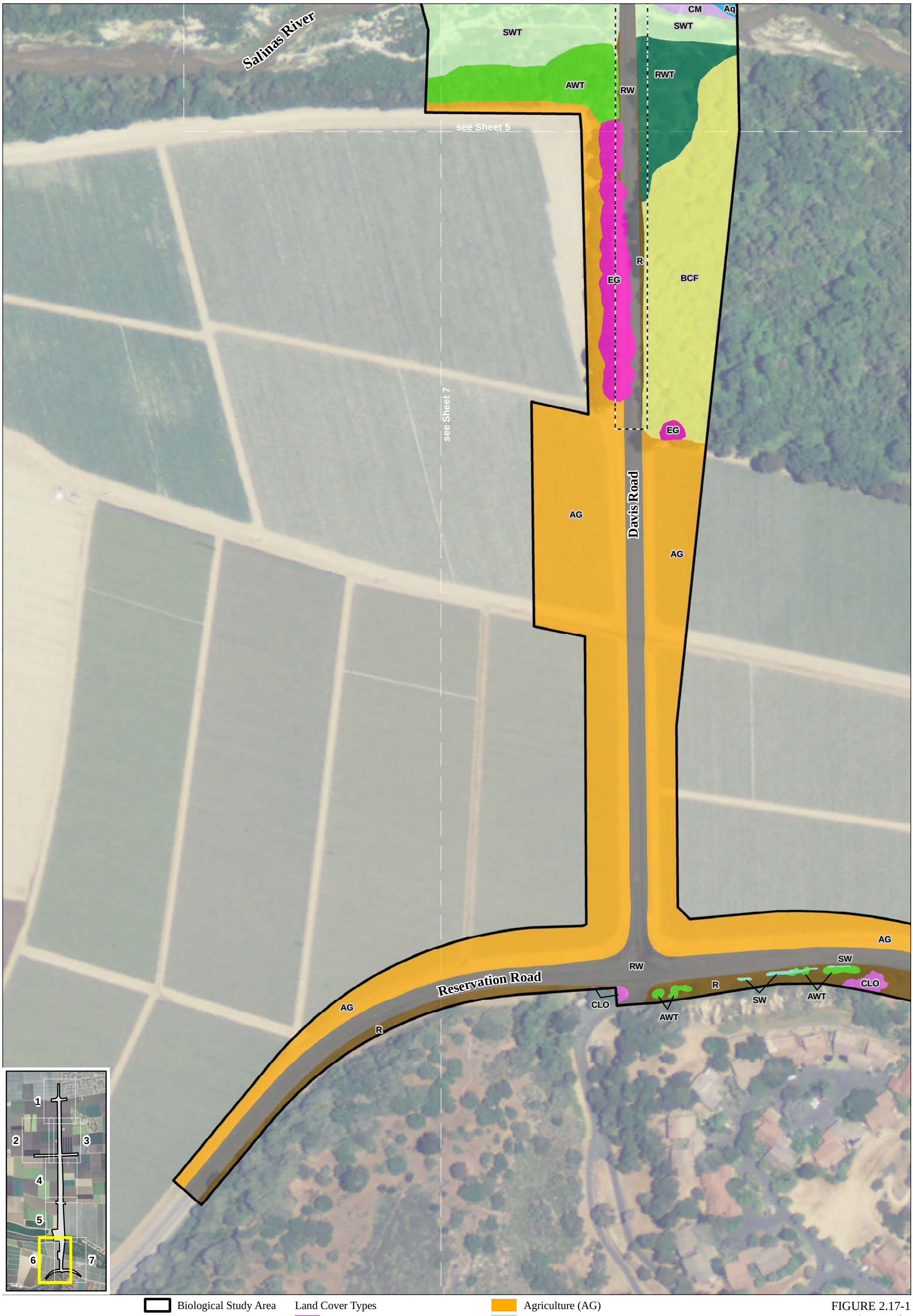

Biological Study Area

Proposed Bridge

Land Cover Types

- Coast Live Oak (CLO)
- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Ornamental Tree (OT)
- Agriculture (AG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)
- Ruderal (R)
- Roadway (RD)
- Unvegetated (U)
- Developed (D)

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.17-1
Sheet 6 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Land Cover Types

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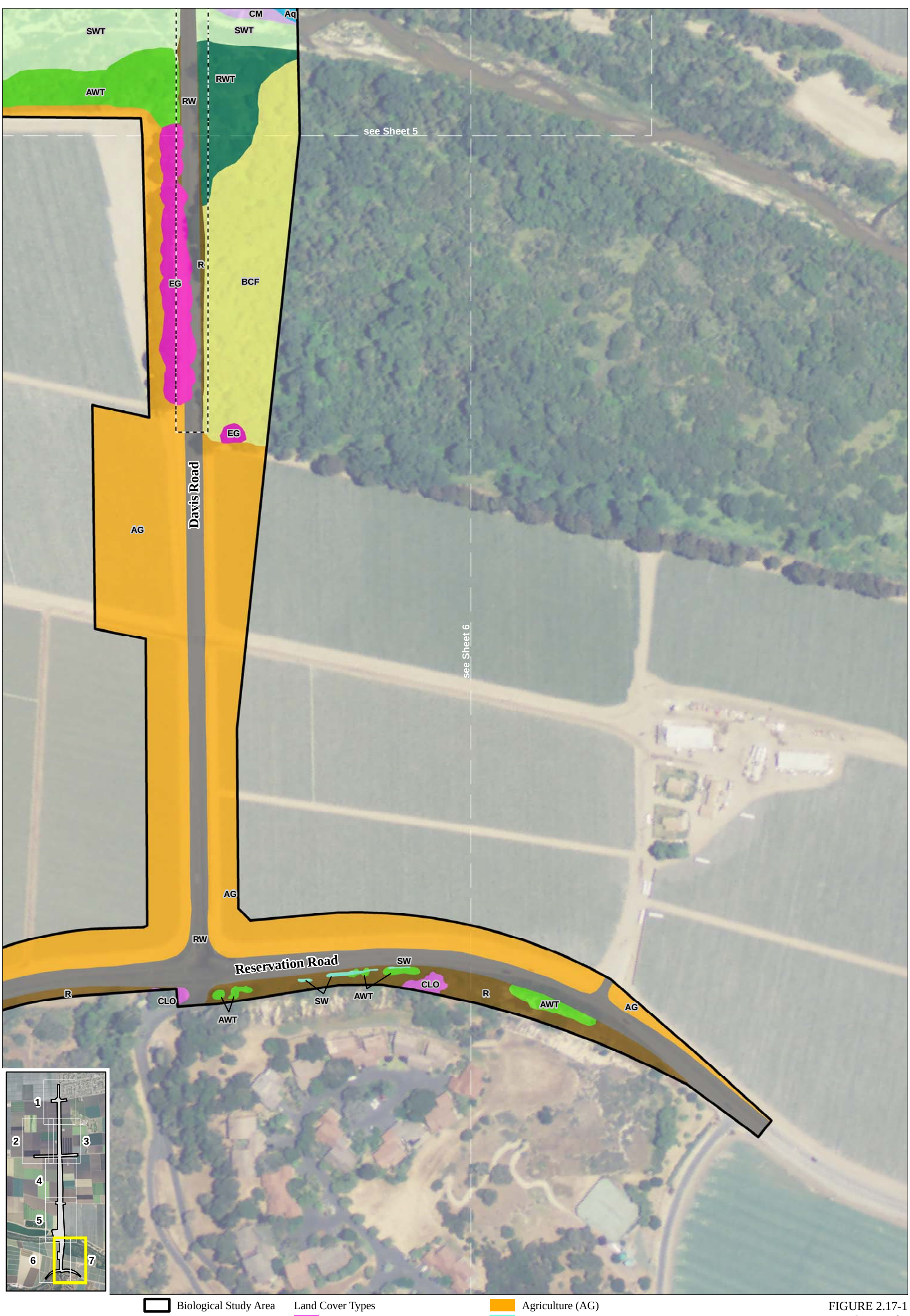

Biological Study Area

Proposed Bridge

Land Cover Types

- Coast Live Oak (CLO)
- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Ornamental Tree (OT)
- Agriculture (AG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)
- Ruderal (R)
- Roadway (RD)
- Unvegetated (U)
- Developed (D)

0 100 200
FEET

Source: USDA NAIP (2012).

FIGURE 2.17-1
Sheet 7 of 7

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Land Cover Types

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The northern end of the BSA abuts the residential outskirts of the City of Salinas while the southern end of the BSA terminates at Reservation Road. Immediately south of Reservation Road, a steep bluff composed of Plio-Pleistocene nonmarine sediments rises up from the edge of the road. The area on top of this bluff south of Reservation Road supports a much different suite of habitats than the Salinas River floodplain, including chaparral, grassland, coast live oak (*Quercus agrifolia*) woodland, and scattered vernal pools. A small residential development is also present on the bluff just southeast of the junction of Davis Road and Reservation Road.

An initial field survey of the BSA was conducted on May 15 and 16, 2006. Tasks during this survey included vegetation and habitat mapping, habitat assessments for special-status species, floral and faunal (vertebrates) inventories, and a jurisdictional delineation. Follow-up surveys were conducted on June 4 and 5, 2008, to update information on habitat conditions in the BSA, gather additional information on special-status species, and update the jurisdictional delineation. A tree survey was conducted on July 28, 2008. An additional survey was conducted on September 18, 2009, to check habitat conditions in the BSA and update data from previous surveys. A final survey to update previous work in the BSA was conducted on May 2, 2013.

2.17.2.2 Vegetation Communities

The most biologically diverse area within the BSA is located along the Salinas River Channel. This area is dominated by relatively natural vegetation types, including black cottonwood forest, red willow thickets, sandbar willow thickets, arroyo willow thickets, and cattail marsh. Outside the Salinas River high-flow channel, most of the BSA is dominated by agricultural fields (used primarily to grow vegetables and strawberries), unvegetated dirt lots, and roads. The vegetation communities are discussed in further detail below and are shown on Figure 2.17-1. The acreages of the plant communities and cover types in the BSA are summarized in Table 2.17.1. Wetlands and other waters of the United States are considered sensitive communities by both federal and State agencies, but are discussed in detail in Section 2.18.

Black Cottonwood Forest (Populus trichocarpa Forest Alliance)

The black cottonwood forest present in the BSA is a mature stand on the south side of Davis Road and on the east side of the Salinas River. This stand contains large trees measuring approximately 65 to 75 ft in height with a mostly closed canopy. Black cottonwood forest occupies approximately 2.92 ac in the BSA. Large red willows (*Salix laevigata*) are also present in this stand, but mostly along the edges.

Table 2.17.1 Vegetation Communities Occurring in the Biological Study Area

Habitat Types	Total Acreage (acres)
Black Cottonwood Forest	2.92
Red Willow Thickets	2.18
Sandbar Willow Thickets	2.20
Arroyo Willow Thickets	2.16
Cattail Marsh	0.32
Giant Reed Breaks[1]	-
Eucalyptus Groves	0.92
Coast Live Oak	0.09
Agriculture	70.19
Roadways	18.96
Developed	0.91
Unvegetated Areas	3.62
Ruderal Vegetation	2.27
Ornamental Trees	0.1
Aquatic Habitat	1.32

Source: *Natural Environment Study* (2014).
[1] Not individually mapped due to the relatively small size and patchy occurrence of stands.

The understory is dominated by thick stands of poison oak (*Toxicodendron diversilobum*), making access difficult. Thickets of California blackberry (*Rubus ursinus*) are present along the edge of the stand adjacent to Davis Road.

Black cottonwood is a fast growing, long-lived (200+ years) tree that grows to over 90 ft in height. Low elevation stands of black cottonwood forest along the coast generally occur where summer fog is prevalent, as within the BSA. At warmer, inland, low elevation sites, black cottonwood is replaced by Fremont cottonwood (*Populus fremontii*), which also occurs within the BSA in small numbers. The primary natural disturbances in black cottonwood forests are flood events, but these events also disperse seeds and deposit nutrient rich sediments that are beneficial to this vegetation.

Red Willow Thickets (Salix laevigata Woodland Alliance)

Red willow thickets predominate on the north side of the river upstream of the existing bridge. Red willow thickets occupy approximately 2.18 ac in the BSA. This stand includes a multilayered canopy with large red willows (25 to 30 ft in height), arroyo willow (*Salix lasiolepis*), box elder (*Acer negundo*), and a few Fremont cottonwoods (*Populus fremontii*). Mugwort (*Artemisia douglasiana*) and stinging nettle (*Urtica dioica*) compose the understory where gaps in the canopy allow

sunlight to reach the ground. Thickets of poison hemlock (*Conium maculatum*), a nonnative species, grow along a narrow dirt road that traverses this willow stand.

Sandbar Willow Thickets (Salix exigua Scrubland Alliance)

Sandbar willow is a shrub or small tree that occurs along seasonally or temporarily flowing streams, rivers, seeps, and springs. After winter flood events, when riparian vegetation has been scoured out and fresh sediment has been deposited, this willow is often the first shrub or tree to colonize these barren habitats. Sandbar willows often form dense stands that, through succession, are slowly replaced by longer-lived willows, cottonwoods, and other riparian trees. Within the BSA, sandbar willow thickets occur in the portions of the Salinas River Channel that regularly flood during winter high flows. During the initial survey of the BSA in May 2006, there were large barren areas of sandy sediment along the river that had been deposited during the previous winter floods. During 2008 and 2009, the sandbar willow thickets in the BSA became progressively taller and denser until they dominated most of the sandy areas in the active river channel that floods during the winter. During the winters preceding, these two surveys were relatively dry with no major flood events. In 2014, sandbar willow thickets occupy approximately 2.20 ac of the BSA.

Arroyo Willow Thickets (Salix lasiolepis Scrubland Alliance)

Arroyo willow is a tall shrub or tree that is a common component of riparian woodlands and around seeps and springs in many areas of cismontane California. Arroyo willow is a common species along the Salinas River, and arroyo willow thickets are one of the prominent vegetation types throughout the drainage. Within the BSA, arroyo willow thickets predominate on the upper edge of the Salinas River Channel and on levee slopes that are not regularly exposed to scouring floods. Arroyo willow thickets occupy approximately 2.16 ac of the BSA; however, these stands also contain box elder, Fremont cottonwood, and at least one black cottonwood. Small patches of arroyo willow thickets are also present in a shallow ditch along Reservation Road. The arroyo willow thickets within the BSA are not as tall as the red willow thickets, but are generally multilayered with a dense understory.

Cattail Marsh (Typha [angustifolia, domingensis, latifolia] Herbaceous Alliance)

Cattail marsh is a characteristic vegetation of shallow water wetlands throughout most of low elevation California. The three species of *Typha* that occur in California can be difficult to identify to species, and they frequently hybridize where they occur together. Cattails die after they fruit in their second year. Their tiny seeds are

dispersed by wind, water, and in mud clinging to animals, but they also reproduce from rhizomes. Along the Salinas River, cattail marsh occurs in areas where still or slow flowing surface water is present, such as immediately upstream and downstream of the existing bridge in the BSA. Upstream of the bridge, dense stands of cattail marsh are periodically present in the shallow water along the pool edge. The cattail marsh in the BSA is periodically scoured out by floods. During the initial site visit in May 2006, cattails were not found along the Salinas River in the BSA. During the 2008 survey, no cattails were present upstream of the bridge, and only a small isolated patch was present downstream of the bridge. By September 2009, dense stands were present both upstream and downstream of the bridge. Cattail marsh currently occupies approximately 0.32 ac of the BSA.

Giant Reed Breaks (Arundo donax Semi-Natural Herbaceous Stands)

This vegetation type occurs as stands within the red and arroyo willow thickets but is not mapped due to the relatively small size and patchy occurrence of the stands. Giant reed (*Arundo donax*) is an invasive, nonnative, perennial grass that grows to heights of almost 20 ft. Giant reed grows from rhizomes and typically forms dense stands that crowd out native species, thereby greatly reducing habitat diversity in riparian areas.

Eucalyptus Groves (Eucalyptus globulus Semi-Natural Woodland Stands)

Eucalyptus groves are a prominent feature of the central California coast. These nonnative trees were introduced into California from their native Australia over 100 years ago. A number of eucalyptus species are naturalized in the State (the most widespread species in central California is the blue gum). This species is a fast-growing, long-lived tree that grows to over 150 ft in height. Within the BSA, a row of blue gum containing 30 to 32 mid-sized trees is growing along the levee on the west side of Davis Road, south of the Salinas River. A single large specimen is also present next to the east side of Davis Road at the edge of the black cottonwood stand and agricultural field. Eucalyptus groves occupy approximately 0.92 ac of the BSA. Blue gum is an invasive species that produces allelopathic chemicals that build up in the soil around the trees. Due to the presence of these chemicals and the large amount of bark and leaves that fall from the trees, the understory of blue gum groves generally support few other species of plants.

Coast Live Oak

Coast live oaks occur along the fringe of the BSA on the steep slopes southwest of Reservation Road. This slope is a narrow strip of undeveloped land between

Reservation Road and a small residential development on top of the slope. Thus, the oaks in this area are mainly isolated trees scattered along the edge of the development, but a small grove of coast live oaks is also present just outside the BSA at the entrance to the development at the Davis Road/Reservation Road intersection. Coast live oak occupies about 0.09 ac of the BSA.

Agricultural, Developed, and Other Terrestrial Cover Types

Agriculture (70.19 ac) and roadways (18.96 ac) are the most prominent cover types in the BSA. Developed areas cover approximately 0.91 ac of the BSA. These cover types have negligible value as habitat for native plants and animals. The primary agricultural crops grown in the area adjacent to the BSA include vegetables, lettuce, and strawberries. The roadways within the BSA likely impact local wildlife populations through mortality due to collisions with vehicles, particularly where Davis Road crosses the Salinas River Channel. Adverse impacts to wildlife from traffic are also likely to occur along Reservation Road.

Unvegetated areas (3.62 ac), ruderal vegetation (2.27 ac), and ornamental trees (0.1 ac), are present along roadways and agricultural fields. Unvegetated areas are used by some wildlife species such as killdeer (*Charadrius vociferous*); however, because most unvegetated areas in the BSA receive heavy use by agricultural equipment and other vehicles, they have limited value for wildlife. Ruderal vegetation and ornamental trees provide habitat for some native species, particularly birds, but these cover types in the BSA are generally small in size and close to busy roadways, thus reducing any value they have for wildlife.

Aquatic Habitats

Aquatic habitats occupy approximately 1.32 ac of the BSA. The primary aquatic habitat within the BSA is the main stem of the Salinas River. A secondary aquatic habitat within the BSA is the Hitchcock Road Channel.

Within the BSA, the Salinas River is a low gradient stream flowing over a sandy bed. At the site of the existing bridge, the river has formed a relatively deep (approximately 4–6 ft) scour pool (referred to herein as the bridge pool). During low flows in summer and fall, the bridge pool shows little evidence of current and provides a still, warm water aquatic habitat. The water in the pool at the time of the field surveys was stained a tea color, apparently a result of decaying vegetation, and the bottom was visible only in shallow areas (2 to 5 inches). Upstream and downstream of the bridge pool, the river is a shallow braided stream (2 to 3 inches

during low summer flows) with a moderate flow of clear water. American beavers (*Castor canadensis*) occur in the lower Salinas River. During June 2008, a beaver dam constructed across the river formed a shallow (1–2 ft deep) clear pool just upstream of the southern boundary of the BSA. The river between the beaver dam and the bridge pool contained extensive beds of green algae in clear flowing water over a clean sandy bed.

The Hitchcock Road Channel appears to be a perennial source of water as three-spine sticklebacks were observed in the scour pool where the channel passes under Davis Road. Due to the lack of bank-side vegetation and the proximity of adjacent roadways and active agricultural fields, the Hitchcock Road Channel is not expected to be an important habitat for local wildlife.

2.17.2.3 Natural Communities of Special Concern

The California Department of Fish and Wildlife (CDFW) designates certain natural communities as being of special concern based on a State rarity ranking of S1 (the rarest), S2, or S3. Based on the CDFW designations, black cottonwood forest (with a State ranking of S3) and red willow thickets (with a State ranking of S3) are the only natural communities of special concern in the BSA.

The only other naturally occurring vegetation communities in the BSA are arroyo willow thicket, sandbar willow thicket, coast live oak. cattail marsh, aquatic habitat, and seasonal wetlands. All other plant communities are not naturally occurring and therefore are not discussed further in this section.

2.17.2.4 Wildlife Corridors

The Salinas River water course and associated riparian vegetation in the lower Salinas Valley provides a corridor of relatively natural habitat through an extensive agricultural landscape that supports few other areas of good quality wildlife habitat. Many species of terrestrial and aquatic animals likely use this riparian corridor for local and long-distance movements. In regard to animal movement up and down the Salinas River riparian corridor, Davis Road is currently a hazard to many species due to its high traffic volumes traveling at high speeds, which increase collisions with wildlife. One example of this is the western pond turtle found crushed on the road during the June 2008 survey. In addition, the Salinas River also functions as a fish migration corridor for pink salmon and South/Central Coast Distinct Population Segments (DPS) of steelhead. The main stem of the Salinas River is an essential migration corridor for steelhead spawning in the upper Salinas River Watershed. In

addition, the main stem of the Salinas River could provide a migration corridor for the pink salmon spawning upstream of the BSA as well as smolts moving downstream to the Pacific Ocean.

2.17.3 Environmental Consequences

2.17.3.1 Temporary Impacts

An area subject to temporary disturbance is any area that is disturbed during project construction but which after project completion would not be subject to further disturbance and has the potential to be revegetated.

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary effects related to natural communities.

Build Alternatives

Natural Communities

The Preferred Alternative would result in temporary impacts to red willow thicket, sandbar willow thicket, arroyo willow thicket, eucalyptus grove, cattail marsh, and aquatic habitat during construction activities (refer to Table 2.17.2). Alternative 2 would result in temporary impacts to sandbar willow thickets, arroyo willow thickets, eucalyptus grove, cattail marsh, and aquatic habitat during construction activities (refer to Table 2.17.2). Overall, temporary impacts to natural communities would be similar for both Build Alternatives. Construction activities that would result in temporary impacts to natural communities include creation of construction access areas, staging areas, and a frontage road. However, impacts associated with construction activities are temporary in nature and therefore would cease after the completion of construction. In addition, implementation of Measure NC-1 would install Environmentally Sensitive Area (ESA) fencing along the edge of the habitat and adjacent to the construction area that would protect natural communities from potential impacts associated with construction. Therefore, the Build Alternatives would not result in any adverse temporary impacts to natural communities.

Wildlife Corridors

As stated above, temporary impacts to the riparian vegetation in the Salinas River Corridor would occur during construction activities. Construction activities could temporarily impact terrestrial and aquatic animal species who use the riparian corridor for local and long-distance movements. However, since Davis Road is

Table 2.17.2 Temporary Impacts for the Build Alternatives

Cover Type	Preferred Alternative (acres)	Alternative 2 (acres)
Black Cottonwood Forest	0	0
Red Willow Thicket	0.01	0
Sandbar Willow Thickets	0.08	0.08
Arroyo Willow Thicket	0.11	0.11
Eucalyptus Grove	0.01	0.01
Cattail Marsh	0.01	0.01
Coast Live Oak	0	0
Aquatic Habitat	0.02	0.01

Source: *Natural Environment Study* (2014).

currently a hazard to many species due to the high traffic volumes traveling at high speeds, temporary impacts associated with construction activities would not be considered adverse.

In addition, the main stem of the Salinas River is an essential migration corridor for steelhead spawning in the upper Salinas River Watershed and could provide a migration corridor for the pink salmon spawning upstream of the BSA as well as smolts moving downstream to the Pacific Ocean. The Salinas River Channel would be diverted during construction, but fish movements upstream and downstream would not be restricted. Furthermore, with implementation of Measures TE-1 and TE-2 (which would require river channelization and place restrictions on pile driving) as well as Measure WQ-5 (which would require the implementation of California Department of Transportation [Caltrans] Best Management Practices [BMPs] during in-water work), potential temporary impacts to fish passage during construction would be reduced and would not be adverse.

2.17.3.2 Permanent Impacts

Permanent impacts are considered those in which any given cover type would not be expected to return to preconstruction conditions within 1 year of disturbance.

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent impacts related to natural communities.

Build Alternatives

Natural Communities

Permanent impacts to cover types include the area under the decking of the new bridge, the widened roadway, the installation of the retention pond, and the Salinas Industrial Wastewater Treatment Facility (SIWTF) driveway access. Natural cover types that would be permanently impacted by the Preferred Alternative include black cottonwood forest, red willow thicket, sandbar willow thicket, arroyo willow thicket, eucalyptus grove, coast live oak, and aquatic habitat (refer to Table 2.17.3). Natural cover types that would be permanently impacted by Alternative 2 include black cottonwood forest, red willow thicket, sandbar willow thicket, eucalyptus grove, coast live oak, and aquatic habitat (refer to Table 2.17.3). Overall, the Preferred Alternative would result in more permanent impacts to natural communities than Alternative 2 because the Preferred Alternative would construct a four-lane bridge over the Salinas River as opposed to the two-lane bridge that would be constructed under Alternative 2. For a discussion of the number of specific trees to be removed per Build Alternative, refer to Table 2.19.1 in Section 2.19, Plant Species.

Table 2.17.3 Permanent Impacts for the Build Alternatives

Cover Type	Preferred Alternative (acres)	Alternative 2 (acres)
Black Cottonwood Forest	0.14	0.04
Red Willow Thicket	0.28	0.06
Sandbar Willow Thickets	0.10	0.02
Arroyo Willow Thicket	0.12	0
Eucalyptus Grove	0.43	0.20
Cattail Marsh	0	0
Coast Live Oak	0.01	0.01
Aquatic Habitat	0.16	0.03

Source: *Natural Environment Study* (2014).

The Build Alternatives would result in a more natural river channel in the BSA, and also an increase in high-flow channel area by removing the old bridge, bridge abutment and associated riprap, and the old roadbed, and relocating the new road completely out of the high-flow channel. This could benefit the riparian vegetation by providing a more natural flow regime and some area (along the edges of the new bridge deck) for the recruitment of new trees.

In addition, since the Salinas River is a naturally dynamic system and vegetation in the channel periodically changes depending on flood events and low-flow periods, riparian vegetation is expected to regenerate naturally in the high-flow channel after

completion of bridge construction; however, regeneration would likely be limited in the shaded area under the decking of the new bridge. Implementation of Measure NC-2 would require the removed trees to be replaced at a 2:1 ratio (i.e., two trees planted for each tree removed), which would augment natural regeneration and protect revegetated areas. Therefore, the Build Alternatives would not result in any adverse permanent effects related to natural communities.

Wildlife Corridors

As stated above, implementation of the new bridge would result in permanent impacts to the riparian vegetation in the Salinas River Corridor; however, only a small amount of riparian vegetation would be impacted by the Build Alternatives. Therefore, permanent impacts to wildlife movement would not be considered adverse. In addition, the new bridge would result in a wider, more natural stream channel and flow dynamic that would increase steelhead and pink salmon passage habitat in this reach of the river. Replacement of the bridge and roadway is expected to allow steelhead and pink salmon to more easily move through the BSA and facilitate access to the upper reaches of the watershed, where suitable spawning habitat occurs. Therefore, the Build Alternatives would result in a beneficial effect to fish passage in the BSA.

2.17.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would avoid, minimize, and/or compensate for temporary and permanent impacts to natural communities within the BSA.

NC-1 **ESA Fencing:** To avoid and minimize impacts to natural communities, Environmentally Sensitive Area (ESA) fencing shall be placed along the edge of the habitat adjacent to the construction area to keep construction equipment and personnel out of the areas occupied by vegetation. A qualified biologist shall aid in the placement of the ESA fencing and shall be on hand to monitor tree removal. No compensatory mitigation is proposed.

NC-2 **Tree Regeneration:** Natural regeneration shall be augmented by planting cuttings from nursery-grown trees of local provenance. Native riparian trees (e.g., black cottonwoods, red willows, and box elders) shall be planted at a 2:1 ratio (i.e., two trees planted for each tree removed) in the high-flow channel outside the edges of the new bridge deck where they would be exposed to light levels suitable for growth.

Planted trees would be protected from beavers by fencing, and a revegetation plan would be developed to monitor survival to Monterey County and/or California Department of Fish and Wildlife (CDFW) specifications.

In addition to the measures described above for natural communities, the following measures would also protect natural communities and wildlife corridors:

- Measures TE-1 and TE-2 in Section 2.21, Threatened and Endangered Species
- Measure WQ-5 in Section 2.10, Water Quality and Storm Water Runoff

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2.18 Wetlands and Other Waters

2.18.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and 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 allow 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 USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects.

The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the Federal Highway Administration (FHWA) and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCB) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details.

2.18.2 Affected Environment

The information in this section is based on the Preliminary *Delineation of Waters of the United States* (2014) (i.e., the Jurisdictional Delineation Report) and the *Natural Environment Study* (NES) (2014) prepared for the proposed project. Detailed discussions and maps of identified jurisdictional features are provided in the Jurisdictional Delineation Report, the information for which is summarized in this section.

The biological study area (BSA) encompasses the entire project footprint plus adjacent areas that could be affected by the proposed project. Along most of Davis Road, the BSA extends approximately 100 to 150 feet (ft) from the edge of pavement. Within the Salinas River high-flow channel, the BSA extends about 400 ft downstream and 200 ft upstream from the pavement edge. The BSA is wider at the river crossing because a temporary construction access road is planned for the area downstream of the existing road crossing, and the Salinas River Channel is where most of the sensitive biological resources within the BSA are located. The area of the BSA comprises approximately 108.19 acres (ac). All potential drainages, wetlands, and riparian areas in the BSA were evaluated in field surveys, and areas of potential jurisdiction were identified.

The project site is located on the greater floodplain of the Salinas River, including a short reach of the Salinas River Channel. The low-flow channel of the Salinas River is partially vegetated with aquatic plant species. The larger active channel is vegetated with young sandbar and arroyo willows growing back from flood damage that occurred in 2006. On the floodplain outside the active channel, vegetation consists of mature riparian forest canopy dominated by willows and cottonwoods.

The project site includes the crossing of a constructed, trapezoid-shaped, agricultural drainage channel at Hitchcock Road. The Hitchcock Road Channel runs parallel to Hitchcock Road and crosses it diagonally under its intersection with Davis Road in a culvert. The bed and banks of the channel are not typically vegetated, but some of the channel edges are vegetated with hydrophytic plant species. The Salinas River and the Hitchcock Road Channel both contained flowing water during the field surveys.

The shoulders of Davis Road contain shallow swales and roadside ditch basins in some locations. Typically, the shoulders of Davis Road do not contain drainage ditches, but rather only occasional low areas between the road and adjacent fields. The relatively level topography and cultivated surface permeability of many of the

site soils may minimize rainfall runoff and eliminate the need for drainage ditches. The small seasonal wetlands on site are located in excavated ditches and contain hydrophytic plant species and evidence of seasonal ponding. The seasonal wetlands were dry during the field surveys.

Field surveys were conducted throughout the BSA on May 16, 2006, on June 4 and 5, 2008, and on May 2, 2013, to identify potential waters of the United States. The field surveys were conducted using the routine determination method given in the USACE Wetlands Delineation Manual. The 2008 and 2013 field investigations also used the revised procedures in the Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region (Version 2.0). The routine determination methodology entails examination of specific sample points within potential wetlands for hydrophytic vegetation, hydric soils, and wetland hydrology. By federal definition, all three of these parameters must be present for an area to be considered a wetland.

2.18.2.1 Functions and Values

All wetlands and other waters have some degree of functionality, and no single wetland can perform all the functions considered below. The following functions are analyzed at low, moderate, or high value levels. Each water feature group is analyzed in detail in Table 2.18.1 and is based on the following criteria.

Table 2.18.1 Functions and Values of Water Features within the BSA

Function	Hitchcock Road Channel (Feature Nos. HRC-1 through HRC-5)	Salinas River	Seasonal Wetlands (Feature Nos. SW-1 through SW-4)
Hydrologic Regime	Moderate	High	Moderate
Flood Storage	Low	High	Moderate
Sediment Retention	Low	High	High
Nutrient Retention	Low	High	Moderate
Toxicant Trapping	Low	High	Moderate
Social Significance	Low	Moderate	Low
Wildlife Habitat	Low	High	Low
Aquatic Habitat	Low	High	Low

BSA = biological study area

- **Hydrologic Regime:** This function is the ability of a wetland or stream to absorb and store water below ground. The degree of this saturation is dependent on the soil composition and is affected by prior flooding events. For example, clay soils possess more pore space than sandy soils. However, the smaller pore size slows the rate at which water is absorbed and released; therefore, clay soil has a lower capacity to store water than sandy soils. The storage of water below ground

allows for the fluctuation between anaerobic and aerobic conditions that benefits environmental conditions necessary for microbial cycling.

- **Flood Storage and Flood Flow Modification:** This function is determined based on the ability of a wetland or stream at which the peak flow in a watershed can be attenuated during major storm events and during peak domestic flows to take in surface water that may otherwise cause flooding. This is dependent on the size of the wetland or stream, the amount of water it can hold, and its location in the watershed. For instance, larger wetlands or streams that have a greater capacity to receive waters have a greater ability to reduce flooding. In addition, areas high in the watershed may have more ability to reduce flooding in downstream areas, but areas lower in the watershed may have greater benefits to a specific area. The vegetation, shape, and configuration of the wetland or stream may also affect flood storage by dissipating the energy of flows during flood events.
- **Sediment Retention:** Removal of sediment is the process that keeps sediments from migrating downstream. This is accomplished through the natural processes of sediment retention and entrapment. This function is dependent on the sediment load being delivered by runoff into the watershed. The vegetation, shape, and configuration of a wetland will affect sediment retention if water is detained for long durations, which would be the case with dense vegetation, a bowl-shaped watershed, or slow-moving water. This function would be demonstrated (i.e., high probability of occurrence) if the turbidity of the incoming water is greater than that of the outgoing water.
- **Nutrient Retention and Transformation:** Nutrient cycling consists of two variables: uptake of nutrients by plants and detritus turnover (in which nutrients are released for uptake by plants downstream). Wetland systems, in general, are much more productive with regard to nutrients than upland habitats. The regular availability of water associated with the wetland or stream may cause the growth of plants (nutrient uptake) and associated detritivores and generate nutrients that may be used by a variety of aquatic and terrestrial wildlife downstream.
- **Toxicant Trapping:** The major processes by which wetlands remove nutrients and toxicants are: (1) trapping sediments rich in nutrients and toxicants, (2) absorption to soils high in clay content or organic matter, and (3) nitrification and denitrification in alternating oxic and anoxic conditions. Removal of nutrients and toxicants is closely tied to the processes that provide for sediment removal.
- **Social Significance:** This is a measure of the probability that a wetland or stream will be used by the public because of its natural features, economic value, official status, and/or location. This includes being used by the public for recreational

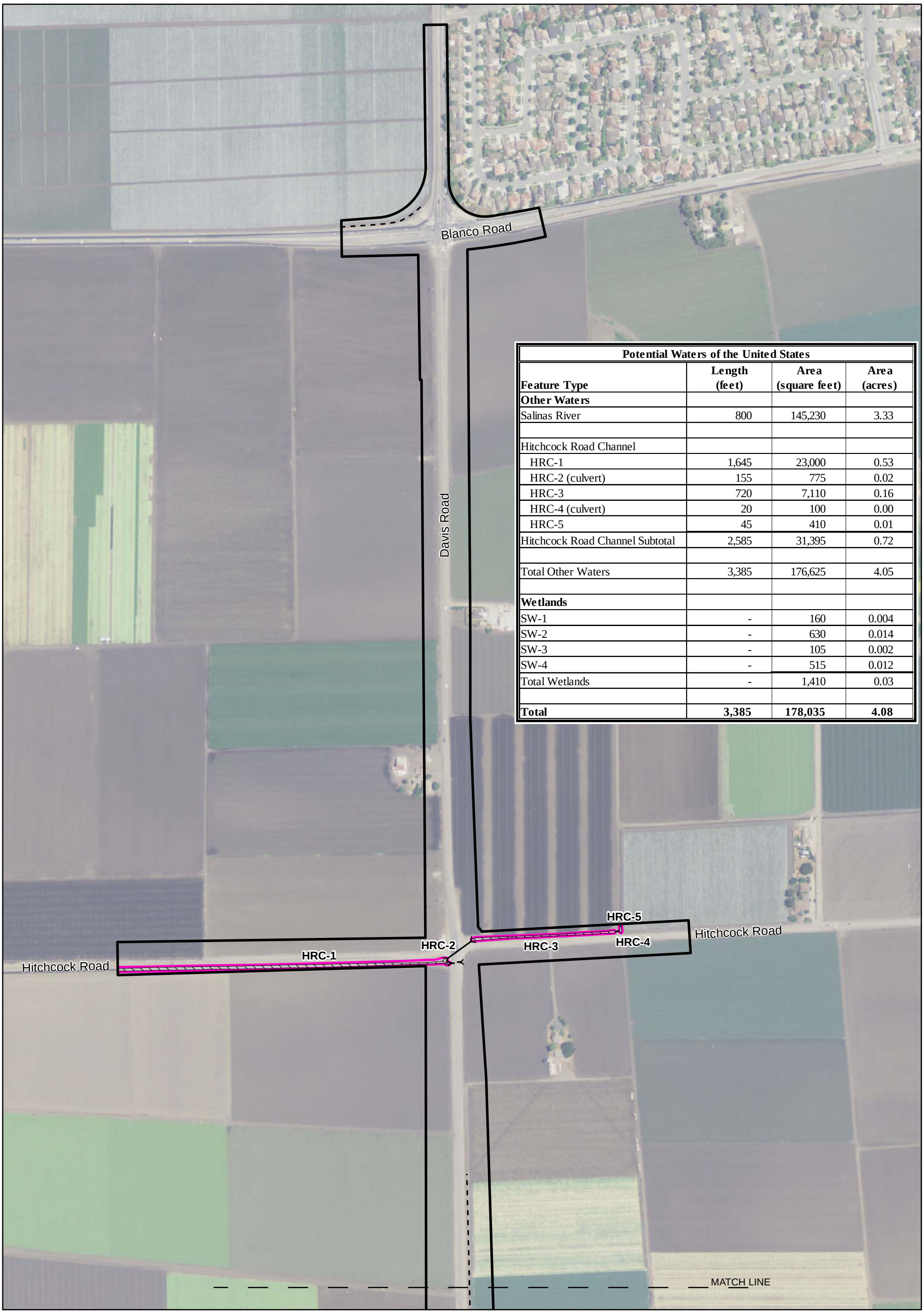
uses (e.g., boating, fishing, birding, walking, and other passive recreational activities). In addition, a wetland or stream used as an outdoor classroom, as a location for scientific study, or near a nature center would have a higher social significance standing.

- **Wildlife Habitat:** General habitat suitability is the ability of a wetland to provide habitat for a wide range of wildlife. Vegetation is a large component of wildlife habitat. As plant community diversity increases along with connectivity with other habitats, so does potential wildlife diversity. In addition, a variety of open water, intermittent ponding, and perennial ponding is also an important habitat element for wildlife.
- **Aquatic Habitat:** The ability of a wetland or stream to support aquatic species requires that there be ample food supply, pool and riffle complexes, and sufficient soil substrate. Food supply is typically in the form of aquatic invertebrates and detrital matter from nearby vegetation. Pool and riffle complexes provide a variety of habitats for species diversity as well as habitat for breeding and rearing activities. Species diversity is directly related to the complexity of the habitat structure.

2.18.2.2 United States Army Corps of Engineers Jurisdiction

USACE regulatory jurisdiction under Section 404 of the CWA is founded on a connection between the water body and either: (1) navigable waters of the United States, or (2) interstate or foreign commerce. Areas determined to meet USACE jurisdictional criteria are mapped on Figure 2.18-1 and included in Table 2.18.2. Those areas include a river, a stream with wetland characteristics, and seasonal wetlands. The Salinas River Channel is subject to USACE jurisdiction because it is a relatively permanent water with a perennial flow that drains into the Pacific Ocean, which is a traditional navigable water of the United States. The total acreage of the Salinas River Channel that is likely subject to USACE jurisdiction within the BSA is approximately 3.33 ac. The Hitchcock Road Channel is subject to USACE jurisdiction because it is a relatively permanent water with a perennial flow that drains into a natural floodplain slough near the Salinas River. In addition, the Hitchcock Road Channel has wetland characteristics. The total acreage of the Hitchcock Road Channel that is likely subject to USACE jurisdiction within the BSA is approximately 0.72 ac. The total area of seasonal wetland areas meeting the criteria for USACE jurisdiction in the BSA is 0.03 ac. The total area of wetlands and nonwetland waters meeting the criteria for USACE jurisdiction is approximately 4.08 ac.

Potential Waters of the United States			
Feature Type	**Length (feet)**	**Area (square feet)**	**Area (acres)**
Other Waters			
Salinas River	800	145,230	3.33
Hitchcock Road Channel			
HRC-1	1,645	23,000	0.53
HRC-2 (culvert)	155	775	0.02
HRC-3	720	7,110	0.16
HRC-4 (culvert)	20	100	0.00
HRC-5	45	410	0.01
Hitchcock Road Channel Subtotal	2,585	31,395	0.72
Total Other Waters	3,385	176,625	4.05
Wetlands			
SW-1	-	160	0.004
SW-2	-	630	0.014
SW-3	-	105	0.002
SW-4	-	515	0.012
Total Wetlands	-	1,410	0.03
Total	**3,385**	**178,035**	**4.08**



LEGEND

- Study Site Boundary
- Salinas River Low Flow Channel
- Potential California Department of Fish and Wildlife Jurisdiction
- Non-jurisdictional Feature
- Non-jurisdictional Ditch
- Non-Jurisdictional Culvert

Potential Waters of the United States

Other Waters

- Irrigation Drainage Channel OHWM
- Salinas River OHWM
- Culvert

Wetlands

- Seasonal Wetland

0 225 450
FEET

Source: USDA NAIP Aerial Imagery (05/2012).

FIGURE 2.18-1
Sheet 1 of 2

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Potential Waters of the United States

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MATCH LINE

Foster Road

Davis Road

SW-4

Salinas River

Salinas River

SW-1

SW-2

SW-3

Reservation Road

Potential Waters of the United States			
Feature Type	**Length (feet)**	**Area (square feet)**	**Area (acres)**
Other Waters			
Salinas River	800	145,230	3.33
Hitchcock Road Channel			
HRC-1	1,645	23,000	0.53
HRC-2 (culvert)	155	775	0.02
HRC-3	720	7,110	0.16
HRC-4 (culvert)	20	100	0.00
HRC-5	45	410	0.01
Hitchcock Road Channel Subtotal	2,585	31,395	0.72
Total Other Waters	3,385	176,625	4.05
Wetlands			
SW-1	-	160	0.004
SW-2	-	630	0.014
SW-3	-	105	0.002
SW-4	-	515	0.012
Total Wetlands	-	1,410	0.03
Total	**3,385**	**178,035**	**4.08**

LEGEND

- Study Site Boundary
- Salinas River Low Flow Channel
- Potential California Department of Fish and Wildlife Jurisdiction
- Non-jurisdictional Feature
- Non-jurisdictional Ditch
- Non-Jurisdictional Culvert

Potential Waters of the United States

Other Waters

- Irrigation Drainage Channel OHWM
- Salinas River OHWM
- Culvert

Wetlands

- Seasonal Wetland

0 225 450

FEET

Source: USDA NAIP Aerial Imagery (05/2012).

FIGURE 2.18-1
Sheet 2 of 2

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Potential Waters of the United States

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Table 2.18.2 Potential Waters of the United States

Feature Type	Length (ft)	Area (sf)	Area (ac)
Other Waters			
Salinas River	800	145,230	3.33
Hitchcock Road Channel			
HRC-1	1,645	23,000	0.53
HRC-2 (culvert)	155	775	0.02
HRC-3	720	7,110	0.16
HRC-4 (culvert)	20	100	0.002
HRC-5	45	410	0.01
Hitchcock Road Channel Subtotal	***2,585***	***31,395***	***0.72***
Total Other Waters	***3,385***	***176,625***	***4.05***
Seasonal Wetlands			
SW-1	-	160	0.004
SW-2	-	630	0.014
SW-3	-	105	0.002
SW-4	-	515	0.012
Total Seasonal Wetlands	-	***895***	***0.03***
Total	***3,385***	***177,520***	***4.08***

Source: *Delineation of Waters of the United States* (2014).
ac = acres ft = feet sf = square feet

2.18.2.3 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction typically extends to the top of a stream bank or to the limit of the riparian vegetation or riparian forest canopy associated with a stream. Areas subject to jurisdiction under the CDFW include 11.39 ac within the BSA, which are mapped on Figure 2.18-1 and included in Table 2.18.3. These areas include the Salinas River and associated riparian vegetation (10.18 ac) and the Hitchcock Road Channel (1.21 ac). The Salinas River is currently bordered by mature riparian forest canopy that extends beyond the river's banks to the edges of the adjacent graded agricultural fields. Therefore, potential CDFW jurisdiction along the Salinas River extends to the limit of existing floodplain riparian forest. The Hitchcock Road Channel has no riparian vegetation beyond the top of its bank and no forest canopy; therefore, potential CDFW jurisdiction extends to the top of its channel bank.

Table 2.18.3 Potential California Department of Fish and Wildlife Jurisdiction

Feature	Length (ft)	Area (sf)	Area (ac)
Salinas River	800	443,440	10.18
Hitchcock Road Channel	2,585	52,710	1.21
Total	**3,385**	**496,150**	**11.39**

Source: *Natural Environment Study* (2014).
ac = acres ft = feet sf = square feet

2.18.2.4 Regional Water Quality Control Board

Pursuant to Section 401 of the CWA, the RWQCB asserts jurisdiction over areas meeting the federal definition of wetlands and other waters of the United States. All the areas meeting the criteria for USACE jurisdiction meet the criteria for RWQCB jurisdiction. Therefore, the total area meeting the criteria for RWQCB jurisdiction is approximately 4.08 ac.

2.18.3 Environmental Consequences

The discussions regarding the potential temporary and permanent project impacts on jurisdictional and nonjurisdictional waters in the following sections should be considered preliminary until verified by the USACE, CDFW, and RWQCB.

2.18.3.1 Temporary Impacts

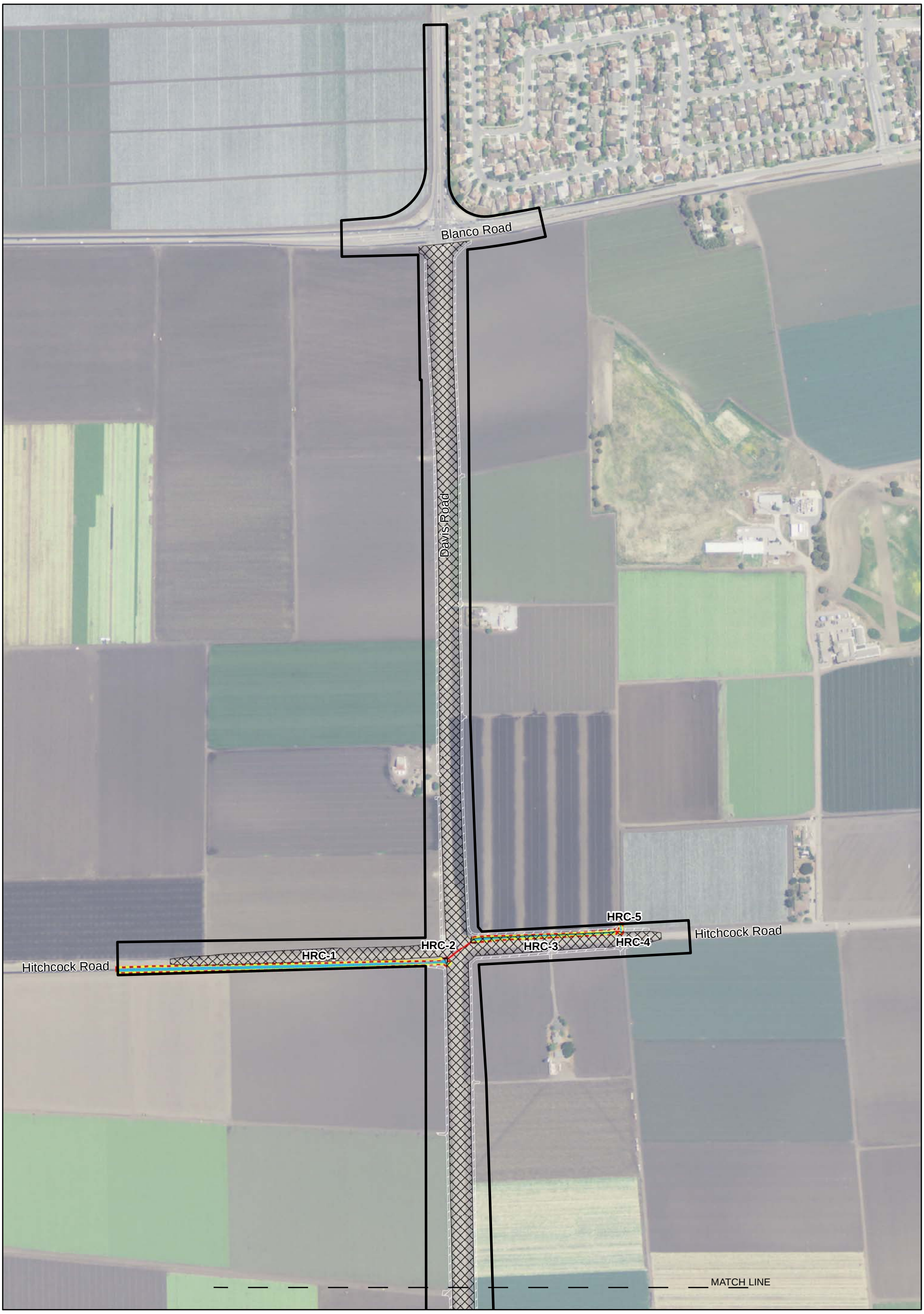
No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary effects related to wetlands and other waters.

Build Alternatives

The Build Alternatives would result in approximately 0.05 ac of temporary impacts to nonwetland waters under USACE jurisdiction, and approximately 0.21 ac of temporary impacts to areas under CDFW jurisdiction due to the proposed construction access road in the Salinas River high-flow channel. Impacts to areas under RWQCB jurisdiction would be the same as impacts to areas under USACE jurisdiction (refer to Figure 2.18-2 for temporary impacts to the Preferred Alternative and Figure 2.18-3 for temporary impacts to Alternative 2).

Implementation of Measures WET-1 through WET-3 and Measure WQ-5 from Section 2.10, Water Quality, would remove native material, return the river channel to its original state after construction, keep construction equipment outside the river channel and implement California Department of Transportation (Caltrans) approved Best Management Practices (BMPs) in order to protect areas under USACE, CDFW, and RWQCB jurisdiction during construction. Therefore, with implementation of Measures WET-1 through WET-3 and Measure WQ-5, the Build Alternatives would not result in any temporary adverse impacts to jurisdictional areas during construction.



LEGEND

- Biological Study Area
- Permanent Impact
- Temporary Impact
- Potential California Department of Fish and Wildlife Jurisdiction
- Potential Waters of the United States

Land Cover Types within Jurisdictional Areas

- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)

0 225 450
FEET

Source: USDA NAIP Aerial Imagery (05/2012).

FIGURE 2.18-2
Sheet 1 of 2
Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Preferred Alternative:
Impacts to Jurisdictional Areas

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LEGEND

- Biological Study Area
- Permanent Impact
- Temporary Impact
- Potential California Department of Fish and Wildlife Jurisdiction
- Potential Waters of the United States

Land Cover Types within Jurisdictional Areas

- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)

0 225 450
FEET

Source: USDA NAIP Aerial Imagery (05/2012).

FIGURE 2.18-2
Sheet 2 of 2
Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Preferred Alternative:
Impacts to Jurisdictional Areas

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LEGEND

- Biological Study Area
- Permanent Impact
- Temporary Impact
- Potential California Department of Fish and Wildlife Jurisdiction
- Potential Waters of the United States

Land Cover Types within Jurisdictional Areas

- Black Cottonwood Forest (BCF)
- Arroyo Willow Thicket (AWT)
- Red Willow Thicket (RWT)
- Sandbar Willow Thicket (SWT)
- Eucalyptus Grove (EG)
- Seasonal Wetland (SW)
- Cattail Marsh (CM)
- Aquatic (Aq)

0 225 450
FEET

Source: USDA NAIP Aerial Imagery (05/2012).

FIGURE 2.18-3

Davis Road Bridge Replacement and Road Widening Project
Federal Project Number BRLS-5944 (068)
Monterey County, California

Alternative 2:
Impacts to Jurisdictional Areas

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2.18.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent effects related to wetlands and other waters.

Preferred Alternative

The Preferred Alternative would result in a total permanent impact of approximately 0.182 ac to areas under USACE jurisdiction. Approximately 0.16 ac of nonwetland waters in the Hitchcock Road Channel would be impacted due to extending and realigning the channel. Approximately 0.02 ac of seasonal wetland along Reservation Road and along the access road to the Salinas Industrial Wastewater Treatment Facility (SIWTF) would be impacted due to widening Davis Road. Approximately 0.002 ac within the ordinary high water mark (OHWM) of the Salinas River would be impacted due to the placement of the two 8 ft diameter piles for the Davis Road Bridge (refer to Table 2.18.4 and Figure 2.18-2).

Table 2.18.4 Permanent Impacts to Waters Under USACE Jurisdiction

Build Alternative	Impacts to Hitchcock Road Channel (ac)	Impacts to Seasonal Wetlands along Reservation Road and Access Road to SIWTF (ac)	Impacts to OHWM of Salinas River (ac)	Total Impacts (ac)
Preferred Alternative	0.16	0.02	0.002	0.182
Alternative 2	-	0.004	0.001	0.005

Source: *Natural Environment Study* (2014).
ac = acres
OHWM = ordinary high water mark
SIWTF = Salinas Industrial Wastewater Treatment Facility
USACE = United States Army Corps of Engineers

The small area of impacts within the OHWM would be compensated by removing the old bridge and abutments, riprap, and the roadbed. This would result in an increase of approximately 0.098 ac in USACE jurisdictional area. Therefore, the Preferred Alternative would not result in any adverse permanent impacts to areas under USACE jurisdiction.

The Preferred Alternative would result in approximately 0.86 ac of permanent impacts to areas under CDFW jurisdiction. Approximately 0.26 ac in the Hitchcock Road Channel would be impacted due to extending and realigning the channel, and approximately 0.60 ac in the Salinas River Channel would be impacted due to shading under the new bridge deck and the placement of ten 8 ft diameter piles (refer to Table 2.18.5 and Figure 2.18-2).

Table 2.18.5 Permanent Impacts to Waters Under CDFW Jurisdiction

Build Alternatives	Impacts to Hitchcock Road Channel (ac)	Impacts to OHWM of Salinas River (ac)	Total Impacts (ac)
Preferred Alternative	0.26	0.60	0.86
Alternative 2	-	0.15	0.15

Source: *Natural Environment Study* (2014).
ac = acres
CDFW = California Department of Fish and Wildlife
OHWM = ordinary high water mark

The 0.59 ac shaded area is expected to affect vegetation regeneration within this area (i.e., the regeneration of tall trees and/or plants that require full sun would likely be limited). However, shading is expected to have negligible effects on the aquatic habitat in the Salinas River Channel. In addition, the functions of the high- and low-flow channel would not be negatively affected. Furthermore, the removal of the old bridge and abutments, riprap, and roadbed would result in an increase of approximately 1.2 ac to CDFW jurisdictional areas. In addition, the bed of the Salinas River Channel within the BSA is composed largely of sand, which resists compaction; therefore, soil compaction from equipment during construction is not anticipated to be an impact. Therefore, the Preferred Alternative would not result in any permanent adverse impacts to areas under CDFW jurisdiction.

Impacts to RWQCB jurisdictional areas would be the same as for areas under USACE jurisdiction.

Alternative 2

Alternative 2 would result in a total permanent impact of approximately 0.005 ac to areas under USACE jurisdiction. Approximately 0.004 ac of seasonal wetland along the access road to the SIWTF would be impacted due to work on Davis Road, and 0.001 ac within the OHWM of the Salinas River would be impacted due to the placement of the two 8 ft diameter piles for the Davis Road Bridge (refer to Table 2.18.4 and Figure 2.18-3).

The small area of impacts within the OHWM would be compensated by removing the old bridge and abutments, riprap, and the roadbed. This would result in an increase of approximately 0.098 ac in USACE jurisdictional area. Therefore, Alternative 2 would not result in any permanent adverse impacts to areas under USACE jurisdiction.

Alternative 2 would result in approximately 0.15 ac of permanent impacts to areas under CDFW jurisdiction. Approximately 0.147 ac of permanent impacts would

result due to shading in the high-flow channel of the Salinas River and 0.001 impacts would be due to the placement of piles within the high-flow channel of the Salinas River (refer to Table 2.18.5 and Figure 2.18-3). Shading is expected to have negligible effects on fish, wildlife, or plant resources in the Salinas River channel. In addition, the removal of the old bridge and abutments, riprap, and roadbed would result in an approximate 1.2 ac increase in CDFW jurisdictional areas. As discussed previously, since the bed of the channel is composed largely of sand, soil compaction from equipment during construction is not anticipated to be an impact. Therefore, Alternative 2 would not result in any permanent adverse impacts to areas under CDFW jurisdiction.

Impacts to RWQCB jurisdictional areas would be the same as for areas under USACE jurisdiction.

2.18.3.3 Agency Coordination

There has been no coordination to date with the USACE, the CDFW, or the RWQCB concerning the proposed project. Pursuant to Section 404 of the CWA, a Nationwide Permit from USACE will be obtained for the proposed project concurrent with a Section 1602 Lake or Streambed Alteration Agreement from CDFW and a Section 401 Water Quality Certification from RWQCB. All permits would be obtained during final design.

A Jurisdictional Delineation Report for the proposed project was submitted to the USACE in June 4, 2014. Receipt of the request for a jurisdictional determination was acknowledged by the USACE, and a project manager was assigned to the proposed project on July 17, 2014. Verification of the jurisdictional delineation is pending due to workload at the regulatory branch of the San Francisco District. Refer to Chapter 4, Comments and Coordination, regarding agency consultation.

2.18.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measures would reduce potential impacts to wetlands and waters under the jurisdiction of USACE, CDFW, and RWQCB:

WET-1 **Native River Soil Material:** If feasible, the Construction Contractor shall ensure that after the completion of pile driving activities, the native river soil material that has been cleaned out of the piles driven to depth shall be reused on site. If the soil composition is not suitable for reuse, the native river soil materials shall be removed from the

biological study area (BSA) and deposited at an off-site permitted facility.

WET-2 **Completion of Construction:** Following the completion of construction, the Construction Contractor shall ensure that the Salinas River Channel is returned to its original contour and condition to the greatest extent possible. All constructed ramps into the Salinas River Channel for the temporary construction access road, construction mats, and other temporary material used for construction shall be removed.

WET-3 **Construction Equipment:** The Construction Contractor shall ensure that refueling, maintenance, and storage of construction equipment and materials shall take place outside of the Salinas River Channel during all construction activities.

In addition to the measures described above Measure WQ-5 in Section 2.10, Water Quality and Storm Water Runoff, requiring implementation of Caltrans BMPs specified in Section 7-1.01G of the Caltrans Standard Specifications – Water Pollution Control and the Caltrans Construction Manual, Section 6-20 – Erosion Control and Highway Planting would also protect wetlands and other waters.

2.19 Plant Species

2.19.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see Section 2.21, Threatened and Endangered Species, for detailed information about these species.

This section of the document discusses all the other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department of Transportation projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900–1913, and the California Environmental Quality Act, CA Public Resources Code, Sections 2100–21177.

2.19.2 Affected Environment

The analysis of the potential for the proposed project to result in adverse impacts to special-status plant species is described in detail in the *Natural Environment Study* (NES) (2014). The findings of the NES are discussed in this section. The biological study area (BSA) was described earlier in this Environmental Impact Report/ Environmental Assessment (EIR/EA) in Section 2.17.2.1, Biological Study Area.

A list of special-status plant species known from the region around the BSA was compiled to evaluate potential project impacts to these species. The special-status species list was obtained from the California Natural Diversity Database (CNDDB); the CNPS Online Edition (2014); the online databases of the collections in the California Academy of Sciences (CAS) in San Francisco and the Museum of

Vertebrate Zoology (MVZ) at the University of California, Berkeley; the USFWS online list referencing the Chualar, Marina, Salinas, and Spreckels quadrangles in Monterey County (County); and other published sources.

The list includes species occurring in a wide variety of habitat types. The determination of whether a given species could occur within the BSA was based on an evaluation of the regional and local geographic distribution of the species and the availability of suitable habitat within the BSA. All habitats in the BSA were evaluated to determine the potential for special-status species to be present. It should be noted that in northern Monterey County, no special-status plant species occur in riparian areas, which is the primary native habitat within the BSA.

It was determined that 28 special-status plant species had the potential to occur in the BSA. Eight of these species are federally and/or State-listed as endangered, threatened, or candidate species and are discussed later in Section 2.21, Threatened and Endangered Species. The remaining 20 special-status plant species identified as potentially occurring in or near the vicinity of the BSA, which are discussed in this section, are: Hickman's onion (*Allium hickmanii*), Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*), Monterey manzanita (*Arctostaphylos montereyensis*), pajaro manzanita (*Arctostaphylos pajaroensis*), sandmat manzanita (*Arctostaphylos pumila*), alkali milk vetch (*Astragalus tener* var. *tener*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), jolon clarkia (*Clarkia jolonesis*), Hutchinson's larkspur (*Delphinium hutchinsoniae*), Eastwood's goldenbush (*Ericameria fasciculata*), pinnacles buckwheat (*Eriogonum nortonii*), sand-loving wallflower (*Erysimum ammophilum*), Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*), Carmel Valley bush mallow (*Malacothamnus palmeri* var. *involucratus*), marsh microseris (*Microseris paludosa*), Monterey pine (*Pinus radiata*), Santa Cruz microseris (*Stebbinsoseris decipiens*), Santa Cruz clover (*Trifolium buckwestiorum*), and Pacific Grove clover (*Trifolium polyodon*).

Field surveys of the BSA were conducted in 2006, 2008, 2009, and 2013. Based on the field surveys, it was determined that none of the 20 special-status plant species evaluated for the project are expected to occur in the BSA due to the lack of suitable habitat.

The County conducted a tree survey of the BSA on July 28, 2008. The tree survey located 312 trees in the BSA. Native riparian trees observed in the BSA include coast live oak, California box elder, Fremont cottonwood, black cottonwood, and three

species of willows. Nonnative trees include Chinese elm (*Ulmus parvifolia*) and blue gum. The BSA is situated within the Greater Salinas Area Plan, which is a section of Monterey County that makes no provision to protect trees other than oaks (i.e., trees in the genus Quercus).

2.19.3 Environmental Consequences

2.19.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary effects related to special-status plant species or tree species.

Build Alternatives

None of the special-status plant species evaluated for the proposed project are expected to occur in the BSA due to the lack of suitable habitat. Therefore, no temporary impacts to special-status plants would occur as a result of construction of the Build Alternatives.

The Preferred Alternative would result in approximately 0.01 acre (ac) of temporary impacts to red willows in the BSA during construction activities. However, impacts associated with construction activities are temporary in nature and therefore would cease after the completion of construction. In addition, implementation of Measure PS-2 would require the installation of Environmentally Sensitive Area (ESA) fencing at or beyond the drip line of trees or groups of trees adjacent to the work area and would protect any trees from potential impacts associated with construction. Alternative 2 would not result in any impacts to riparian or nonnative trees during construction activities. Therefore, with implementation of Measure PS-2, no temporary adverse impacts to trees would occur as a result of construction of the Build Alternatives.

2.19.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent effects related to special-status plant species or tree species.

Build Alternatives

None of the special-status plant species evaluated for the proposed project are expected to occur in the BSA due to the lack of suitable habitat. Therefore, no

permanent impacts to special-status plants would occur as a result of the Build Alternatives.

The Preferred Alternative would require the removal of 44 trees: 39 native riparian trees (i.e., 3 black cottonwoods, 34 red willows, and 2 box elders) and 5 nonnative trees (i.e., 4 blue gums and 1 Chinese elm) (refer to Table 2.19.1). Alternative 2 would require the removal of 14 trees: 12 native riparian trees (e.g., 2 black cottonwoods and 10 red willows) and 2 nonnative blue gum trees (refer to Table 2.19.1). The loss of large, mature trees would contribute to the cumulative effects to trees along the Salinas River. Riparian woodlands are a dynamic habitat with large trees along the river that are periodically being washed out during flood events or are cut down by beavers. As large trees are lost, they are continuously being replaced by newly established saplings. The removal of large trees would be offset by the implementation of Measure PS-2, which would require the installation of ESA fencing at or beyond the drip line of trees, and Measure NC-2 in Section 2.17, Natural Communities, which would replace the removed trees at a 2:1 ratio (i.e., two trees planted for each one removed).

Table 2.19.1 Trees to be Removed per Build Alternative

Type of Tree to be Removed	Preferred Alternative	Alternative 2
Black Cottonwoods	3	2
Red Willows	34	10
Box Elder	2	0
Nonnative Blue Gum	4	2
Chinese Elm	1	0
TOTAL	**44**	**14**

Source: *Natural Environment Study* (2014).

In addition, based on the project plans, a portion of the canopy of a single coast live oak (0.01 ac) overlaps into the proposed cut-and-fill area along Reservation Road. That coast live oak is located upslope from the project impact area; however, ground-disturbing activities would occur under a small portion of the canopy and could result in potential permanent impacts. Implementation of Measure PS-1 would require the installation of ESA fencing around the tree to protect the coast live oak from permanent impacts associated with ground-disturbing activities. Therefore, with implementation of Measures PS-1, PS-2, and NC-2, there would be no adverse permanent impacts to native trees.

2.19.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measures would reduce impacts to special-status plant species and trees:

PS-1 **Coast Live Oak:** The County of Monterey (County) shall retain the services of a qualified arborist who shall assist the construction crew in placing Environmentally Sensitive Area (ESA) fencing around the tree in order to protect it during construction activities.

PS-2 **Riparian Trees:** To avoid and minimize impacts to riparian trees during construction, the County shall retain the services of a qualified arborist who shall assist construction crews in the placement of ESA fencing at or beyond the drip line of trees or groups of trees adjacent to the work area to delineate a tree protection zone. No construction equipment or storage of construction materials shall be allowed to enter the tree protection zone.

In addition to the measures described above for special-status plant species and trees, the following measure would also protect plant and tree species:

- Measure NC-2 in Section 2.17, Natural Communities

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2.20 Animal Species

2.20.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.21 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

2.20.2 Affected Environment

The information in this section is based on the *Natural Environment Study* (NES) (2014) prepared for the proposed project. The findings of the NES are also summarized in this section. A description of the biological study area (BSA) is provided in Section 2.17.2.1, Biological Study Area.

A list of special-status animal species known from the region around the BSA was compiled to evaluate potential project impacts to these species. The special-status species list was obtained from the California Natural Diversity Database (CNDDB) (CDFW 2014); the online databases of the collections in the California Academy of Sciences (CAS) in San Francisco and the Museum of Vertebrate Zoology (MVZ) at the University of California, Berkeley; the USFWS online list referencing the

Chualar, Marina, Salinas, and Spreckles quadrangles in Monterey County; and other published sources.

The special-status animal species list includes species occurring in a wide variety of habitat types. The determination of whether a given animal species could occur in the BSA was based on an evaluation of the regional and local geographic distribution of the species and the availability of suitable habitat in the BSA. All habitats in the BSA were evaluated to determine the potential for special-status species to be present.

Based on the literature review, 29 special-status animal species were identified that have the potential to occur or are known to occur in the BSA. Of the 29 special-status animal species, 17 are federally and/or State-listed as endangered, threatened, or candidate species and are discussed in Section 2.21, Threatened and Endangered Species. The remaining 12 special-status animal species were identified as potentially occurring in or near the vicinity of the BSA.

An initial field survey of the BSA was conducted on May 15 and 16, 2006. Tasks during this survey included vegetation and habitat mapping, habitat assessments for special-status species, floral and faunal (vertebrates) inventories, and a jurisdictional delineation. Follow-up surveys were conducted on June 4 and 5, 2008, to update information on habitat conditions in the BSA, gather additional information on special-status species, and update the jurisdictional delineation. A tree survey was conducted on July 28, 2008. An additional survey was conducted on September 18, 2009, to check habitat conditions in the BSA and update data from previous surveys. A final survey to update previous work in the BSA was conducted on May 2, 2013.

Based on the field surveys, it was determined that 9 of the 12 special-status animal species have the potential to occur and/or have potentially suitable habitat present within the BSA. The 9 special-status animal species are discussed in this section, and include: pink salmon (*Oncorhynchus gorbuscha*), western pond turtle (*Actinemys marmorata*), California legless lizard (*Anniella pulchra*), two-striped garter snake (*Thamnophis hammondii*), yellow warbler (*Setophaga petechial*), yellow-breasted chat (*Icteria virens*), tricolored blackbird (*Agelaius tricolor*), western red bat (*Lasiurus blossevillii*), and Monterey big-eared woodrat (*Neotoma macrotis luciana*). Additional wildlife species may have the potential to occur in the BSA but were not discovered during the literature and database reviews or the field surveys.

2.20.2.1 Pink Salmon

The pink salmon (*Oncorhynchus gorbuscha*) is a California species of special concern. Pink salmon were undocumented in the Salinas River until August 24, 2011. On this date, four adults (including three males in spawning condition) were captured at a water diversion facility approximately 4.3 miles (mi) upstream from the mouth of the river. This species is known to wander, and the presence of this species in the river in 2011 suggests that a small population, whether previously undetected or newly established, could be present. This species generally spawns in the lowermost reaches of rivers and spends a relatively short time in freshwater.

This species was not observed in the BSA during the field surveys. However, adults moving upstream to spawn and smolts moving downstream to the ocean would be expected to pass through the BSA if they spawn upstream of the BSA. Essential Fish Habitat (EFH) for this species does not include the Salinas River, and suitable spawning habitat is not present in the BSA or its immediate vicinity, but the main stem of the Salinas River in the BSA could provide a migration corridor for the pink salmon spawning upstream of the BSA.

2.20.2.2 Western Pond Turtle

The western pond turtle (*Actinemys marmorata*) is a California species of special concern. These turtles generally prefer deep (greater than 2 feet [ft]), quiet pools along streams but they also occur in ponds, including constructed ranch ponds. Important habitat features include basking sites and suitable aquatic hiding areas (e.g., undercut banks, logs, rocks, aquatic vegetation, and/or mud and leaf litter). Western pond turtles occupy permanent and intermittent ponds and creeks. An important element of suitable habitat is the presence of upland nesting and overwintering/ estivation areas adjacent to aquatic habitat. These turtles have been documented to move 8 to 280 meters (m) (average 49.7 m) overland to terrestrial sites. Turtles in ponds tend to overwinter in aquatic habitat, while individuals in streams apparently winter mainly in terrestrial habitats. This may be due to the fact that within the western pond turtle's range, many streams (e.g., the Salinas River) experience flash flows during winter storms that can wash turtles downstream.

The western pond turtle occurs in the BSA. A dead adult turtle was found on Davis Road just north of the existing bridge during the June 2008 survey. Roads can have a major impact on turtle populations, especially when breeding females are moving overland to nesting sites during the spring. During the field surveys, binoculars (10x40) were used from a distance in a focused effort to locate turtles in suitable

basking areas and aquatic habitat so as to not disturb the turtles. All surveys were conducted during favorable weather conditions for turtle activity. All suitable habitats in the BSA and several hundred feet upstream and downstream of the BSA were surveyed. No western pond turtles, other than the dead specimen, were observed. Based on field surveys over multiple years, it appears that this species is uncommon in the BSA, but individuals apparently move through the BSA occasionally.

2.20.2.3 California Legless Lizard

The California legless lizard (*Anniella pulchra*) is a California species of special concern. This secretive burrowing species is generally found in areas with loose sandy soils, loose humus, and/or leaf litter. Populations of these lizards on the Monterey Peninsula and in the dunes around the southern shore of Monterey Bay are dark brown to black in color.

Potential habitat in the BSA occurs in a relatively narrow area along the upper edge of the Salinas River Channel and in higher areas on the river bench that are less susceptible to periodic flooding. The fact that the Salinas River Channel is surrounded by a heavily cultivated landscape that is unsuitable habitat for these lizards further limits the area of legless lizard habitat within the BSA. If California legless lizards are present in the higher areas along the Salinas River, they could presumably move into areas closer to the Salinas River Channel during the dry season or during longer periods of dry weather when flooding is infrequent. Based on the presence of suitable habitat, this species is likely to be present.

2.20.2.4 Two-Striped Garter Snake

The two-striped garter snake (*Thamnophis hammondii*) is a California species of special concern. This snake is aquatic but also uses upland habitat adjacent to water bodies. There are very few records of this species in the lower Salinas River, and the species is not known to occur in the BSA or its vicinity. A single garter snake was observed during the field surveys but was not positively identified due to dense vegetation. Three other species of garter snakes occur in the general area and could occur in the BSA. The field surveys were conducted over multiple years during favorable weather conditions for garter snake activity, and only one garter snake was seen. Based on these observations, two-striped garter snakes are assumed to be uncommon in the BSA.

2.20.2.5 Yellow Warbler

The yellow warbler (*Setophaga petechia*) is a California species of special concern. Yellow warblers typically nest and forage in mesic riparian habitats dominated by willows, but they will also use cottonwoods and, to a lesser extent, other riparian tree species including oaks (particularly deciduous species near streams). This species is a neotropical migrant that is a common breeder in suitable riparian habitat along the larger streams of Monterey County. Several singing males were observed during the 2006 and 2008 field surveys. This species is likely to nest in the black cottonwood forest and in the red willow and arroyo willow thickets in the BSA.

2.20.2.6 Yellow-Breasted Chat

The yellow-breasted chat (*Icteria virens*) is a California species of concern. In California and other areas of the arid west, the yellow-breasted chat inhabits dense riparian vegetation such as willow thickets interspersed with California blackberry (*Rubus ursinus*) patches and/or other tall weedy growth. The red willow and arroyo willow thickets in the BSA provide suitable breeding habitat. The yellow-breasted chat was formerly a common breeding species along the Salinas River and other larger streams in Monterey County, but populations have declined due to habitat alteration and brood parasitism by brown cowbirds (*Molothrus ater*). The species is now considered rare in Monterey County.

2.20.2.7 Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a California species of special concern and is endemic to the State. This species nests in large colonies, generally in extensive areas of cattail marsh, but nesting colonies also occur in moist fields with tall weedy growth, large blackberry patches, and other dense growth near water. Colonies have also occurred in willow thickets. Tricolored blackbird colonies occur in marshes around a number of freshwater ponds in the lower Salinas Valley. However, the cattail marsh in the BSA along the Salinas River is relatively small in area (0.32 acre [ac]) and is too small to provide suitable nesting habitat for tricolored blackbirds.

Tricolored blackbirds winter in large mixed blackbird flocks that forage in moist grasslands, irrigated pastures, cut grain and alfalfa fields, open marsh borders, and seasonal wetlands. Row crops, such as those that occupy most of the BSA outside the Salinas River Channel, do not provide suitable foraging or nesting habitat for tricolored blackbirds. Tricolored blackbirds may occasionally occur as transients in the BSA, but suitable foraging and/or nesting habitat are not present.

2.20.2.8 Western Red Bat

The western red bat (*Lasiurus blossevillii*) is a California species of special concern. The Salinas River Valley is within the range of the western red bat, and suitable roosting and foraging habitat is present within the BSA; however, no western red bats were observed during the field surveys. This bat roosts among the foliage of trees and favors riparian corridors for foraging. Western red bats could roost in the black cottonwood forest and red willow thickets in the BSA, but they can be difficult to detect due to their solitary roosting habits.

2.20.2.9 Monterey Big-Eared Woodrat

The Monterey big-eared woodrat (*Neotoma macrotis luciana*) is a California species of special concern. Its presence in the BSA is indicated by the observation of nests in the understory of the black cottonwood forest and red willow thickets. Due to the density of vegetation and the prevalence of poison oak, it was difficult to determine how many nests were present in the BSA. At least three nests were observed, including one that was about 6 ft above the ground in a red willow. No woodrat nests were found in the BSA on the downstream side of Davis Road, where mature woodland/forest is limited.

2.20.2.10 Nesting Birds

Fifty-one bird species protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code were observed in the BSA during field surveys. A number of these species potentially nest in the BSA, including the yellow warbler (a California species of special concern). The various vegetation types along the Salinas River provide nesting habitat for the greatest number of species, but some species such as the killdeer (*Charadrius vociferus*) could nest in open areas along road shoulders and on the edges of crop fields in other parts of the BSA.

2.20.3 Environmental Consequences

2.20.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary effects related to special-status animal species.

Build Alternatives

Pink Salmon

As stated previously, the main stem of the Salinas River in the BSA could provide a migration corridor for pink salmon spawning upstream of the BSA. Construction activities in the riverbed could impede the passage of adults (moving upstream to their spawning grounds) and smolts (moving downstream to the ocean). Implementation of Measures TE-1 and TE-2 (from Section 2.21, Threatened and Endangered Species) would place restrictions on construction work in and adjacent to the water, including pile driving. Implementation of Measure WQ-5 (from Section 2.10, Water Quality and Storm Water Runoff) would require implementation of California Department of Transportation (Caltrans) Best Management Practices (BMPs) that would reduce any potential adverse temporary effects to this species. Therefore, with implementation of Measures TE-1, TE-2, and WQ-5, temporary impacts to pink salmon would not be adverse.

Western Pond Turtle

Based on the field surveys, it would be uncommon for western pond turtle to occur in the BSA; however, individuals do apparently move through the BSA on occasion. In case western pond turtle is present in the BSA, it is anticipated that any individuals present in the river during construction would move out of the area on their own. Therefore, it is unlikely that the Build Alternatives would result in any temporary adverse effects on this species. Implementation of Measures AS-1 through AS-6 would require an environmental training session for all construction and maintenance personnel, a biological monitor present at the work site during all construction activities, Environmentally Sensitive Area (ESA) fencing and exclusion fencing around the work area, special-status species survey of the work area, river monitoring for reptiles and other small wildlife, and defined access routes and boundaries of the work area. Implementation of Measure AS-9 would require biological monitoring of turtles during river channel diversion activities. Therefore, with implementation of Measures AS-1 through AS-6 and AS-9, temporary impacts to western pond turtle would not be adverse.

California Legless Lizard

The proposed construction access road and activity within associated construction areas would temporarily affect suitable habitat for California legless lizard. The proposed construction access road would cut across the upper edge of the Salinas River Channel and through legless lizard habitat on the downstream side of Davis Road. In addition, vegetation would be removed and soil compaction would occur

from the use of construction equipment. However, soil compaction is expected to be minimal because sandy soils generally resist compaction. Vegetation removal, grading, and heavy equipment activity could result in mortality of legless lizards. Restoration such as tree planting could impact some legless lizards, but this is expected to be minimal. In addition, all impacts would be considered temporary. Implementation of Measures AS-1 through AS-6 would require an environmental training session for all construction and maintenance personnel, a biological monitor present at the work site during all construction activities, ESA fencing and exclusion fencing around the work area, special-status species survey of the work area, river monitoring for reptiles and other small wildlife, and defined access routes and boundaries of the work area. Therefore, with implementation of Measures AS-1 through AS-6, temporary impacts to California legless lizard would not be adverse.

Two-Striped Garter Snake

The Build Alternatives may result in temporary impacts to garter snake habitat through ground disturbance, removal of vegetation, and diversion of the Salinas River Channel. If snakes are sheltering in vegetation or in underground retreats in the work area, they could be crushed by heavy equipment during vegetation removal or other ground-disturbing activities. In addition, the proposed construction access road would cut across the Salinas River Channel and through potential garter snake habitat on the downstream side of Davis Road. Implementation of Measures AS-1 through AS-6 would require an environmental training session for all construction and maintenance personnel, a biological monitor present at the work site during all construction activities, ESA fencing and exclusion fencing around the work area, special-status species survey of the work area, river monitoring for reptiles and other small wildlife, and defined access routes and boundaries of the work area. Therefore, with implementation of Measures AS-1 through AS-6, no temporary adverse impacts to two-striped garter snake would occur during construction.

Yellow Warbler

The Build Alternatives may potentially result in temporary impacts to yellow warbler during tree removal and trimming activities. Implementation of Measures AS-7 and AS-8, which would restrict tree removal and trimming to the nonbreeding season and would protect nesting birds, would reduce any adverse temporary impacts to yellow warblers and their associated nesting and foraging habitat. An appropriate nest buffer for yellow warbler would be 25 to 50 ft, depending on where the nest is located. Therefore, there would be no temporary adverse impacts to yellow warbler.

Yellow-Breasted Chat

This species was not observed in the BSA or in adjacent areas of suitable habitat during field surveys conducted within the nesting season; however, there is a potential for yellow-breasted chats to occur next to the BSA. Implementation of Measures AS-7 and AS-8, which would restrict tree removal and trimming to the nonbreeding season and would protect nesting birds, would protect yellow-breasted chats if they attempted to nest in the BSA. An appropriate nest buffer for yellow-breasted chats would be 25 to 50 ft, depending on where the nest is located. Therefore, there would be no temporary adverse impacts to yellow-breasted chats.

Tricolored Blackbird

The Build Alternatives are not expected to affect nesting or wintering tricolored blackbirds because nesting colonies or large wintering flocks are not likely to occur in the BSA. In the unlikely event that this species nests in the BSA, Measures AS-7 and AS-8, which would restrict tree removal and trimming to the nonbreeding season and would protect nesting birds, would avoid temporary impacts to this species. Therefore, no temporary adverse impacts to the tricolored blackbird would occur during construction.

Western Red Bat

The Build Alternatives may result in temporary impacts to western red bat during construction through disturbance and vegetation removal. Due to the solitary roosting habits of this species, preconstruction (i.e., vegetation removal) surveys would not be feasible. An extensive area of suitable roosting habitat occurs adjacent to the areas along Davis Road where vegetation would be removed. Any bats roosting in trees during removal may be torpid, therefore causing them to be unable to flush when a tree is cut and processed. Implementation of Measure AS-10, which would leave tree limbs overnight to allow enough time for bats to leave the area, would reduce impacts to western red bats. Therefore, no temporary adverse impacts to western red bats would occur during construction.

Monterey Big-Eared Woodrat

The Build Alternatives would affect a narrow strip of suitable habitat for Monterey big-eared woodrat along the upstream edge of Davis Road. At least three nests were observed, including one that was about 6 ft above the ground in a red willow; however, based on the tree removal map, it was not possible to determine if the red willow containing the woodrat nest is scheduled to be removed. Implementation of Measures AS-1 through AS-6 would require an environmental training session for all

construction and maintenance personnel, a biological monitor present at the work site during all construction activities, ESA fencing and exclusion fencing around the work area, special-status species survey of the work area, river monitoring for reptiles and other small wildlife, and defined access routes and boundaries of the work area. Implementation of Measure AS-11 would require a woodrat nest survey by a qualified biologist. Therefore, with implementation of Measures AS-1 through AS-6 and AS-11, no temporary adverse impacts to Monterey big-eared woodrats would occur during construction.

Nesting Birds

Construction activities such as vegetation removal and ground disturbance could directly destroy active nests or indirectly contribute to nest failure by exposing active nests to elements and/or predators. Human activity close to an active nest could attract potential nest predators and/or disrupt the normal nesting activities of adult birds, thereby contributing to nest failure. Implementation of Measures AS-7 and AS-8, which would restrict tree removal and trimming to the nonbreeding season and would protect nesting birds, would reduce potential temporary adverse impacts to nesting birds during construction.

2.20.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent effects related to special-status animal species.

Build Alternatives

Pink Salmon

As stated previously, the main stem of the Salinas River in the BSA could provide a migration corridor for pink salmon spawning upstream of the BSA. The Build Alternatives would involve the removal of the old bridge, including abutments and piles, associated riprap, and the old roadbed in the Salinas River Channel, and the restoration of elevations to the current high-flow channel level. This would result in a wider, more natural stream channel and flow dynamic that would increase pink salmon passage habitat in this reach of the river. Replacement of the bridge and roadway is expected to allow pink salmon to more easily move through the BSA and would facilitate access to the upper reaches of the Salinas River Watershed, where suitable spawning habitat occurs. Therefore, the new bridge would result in a beneficial effect to pink salmon passage habitat in the Salinas River.

Western Pond Turtle

Due to the apparent rarity of the western pond turtle in the BSA, the Build Alternatives are unlikely to have any permanent adverse effects on this species. In addition, implementation of the Build Alternatives would restore the section of the Salinas River in the BSA to a more natural flow dynamic and thus improve the habitat for western pond turtles along this section of the river. The new bridge would result in the relocation of the roadway out of the river channel, thus greatly reducing the likelihood of turtle mortality from vehicle traffic. Therefore, the new bridge would result in a beneficial effect to western pond turtles within the BSA.

California Legless Lizard

The new bridge would span the Salinas River Channel. Once the new bridge is constructed, the old bridge, which is currently in the Salinas River Channel, would be removed. Removal of the old bridge, bridge abutments, associated riprap, and roadbed would remove existing obstacles from California legless lizard habitat and thereby increase the potential habitat for legless lizards and greatly reduce potential mortality from vehicle traffic. Therefore, the new bridge would result in a beneficial effect to California legless lizards in the BSA.

Two-Striped Garter Snake

The new bridge would span the Salinas River Channel. Once the new bridge is constructed, the old bridge, which is currently in the Salinas River Channel, would be removed. Removal of the bridge, bridge abutments, associated riprap, and roadbed would remove existing obstacles from two-striped garter snake habitat, thereby increasing the potential habitat for two-striped garter snake and greatly reducing the likelihood of garter snake mortality from vehicle traffic. Therefore, the new bridge would result in a beneficial effect to two-striped garter snakes in the BSA.

Yellow Warbler

The Build Alternatives would result in permanent impacts to 0.54 ac of potential yellow warbler nesting and foraging habitat (black cottonwood forest, and red willow and arroyo willow thickets). This small area of nesting habitat is along Davis Road and is not likely a high-quality yellow warbler nesting habitat since it is close to the road. Trees along roads can be more exposed to nest predators such as American crows (*Corvus brachyrhynchos*), which occur in the BSA and are often seen foraging along the road. Due to the small area of impact to suitable nesting habitat, the Build Alternatives would not result in any adverse permanent effects to yellow warblers.

Yellow-Breasted Chat

The yellow-breasted chat was not observed in the BSA or in adjacent areas of suitable habitat during field surveys conducted during the nesting season. Since it is unlikely that this species nests in the BSA, no permanent adverse impacts to yellow-breasted chats are anticipated.

Tricolored Blackbird

Implementation of the Build Alternatives is not expected to affect nesting or wintering tricolored blackbirds because nesting colonies or large wintering flocks are not likely to occur in the BSA. Therefore, there would be no permanent adverse impacts to tricolored blackbirds.

Western Red Bat

The Build Alternatives would result in the removal of 0.97 ac of potential western red bat roosting habitat, including eucalyptus grove, black cottonwood forest, and red willow and arroyo willow thickets. However, due to the small acreage of impacts to suitable roosting habitat, permanent impacts to western red bat and its habitat would not be adverse.

Monterey Big-Eared Woodrat

The Build Alternatives would permanently affect a narrow strip of suitable habitat for Monterey big-eared woodrat along the upstream edge of Davis Road. At least three nests were observed, including one that was about 6 ft above the ground in a red willow. However, based on the tree removal map, it was not possible to determine whether the red willow containing the woodrat nest is scheduled to be removed. Due to the small acreage of impacts to suitable roosting habitat, permanent impacts to Monterey big-eared woodrat and its habitat would not be adverse.

Nesting Birds

The new bridge and roadway would be located outside the Salinas River Channel. Once the new bridge is constructed, the existing bridge, which is currently in the Salinas River Channel, would be removed. Since the new bridge would be located outside the riparian corridor, there would be fewer disturbances to nesting birds from traffic noise. Additionally, after project completion, riparian vegetation would recover, thereby increasing the potential habitat for nesting birds. Therefore, the Build Alternatives would not result in any adverse permanent impacts to nesting birds.

2.20.4 Avoidance, Minimization, and/or Mitigation Measures

To protect special-status animals and other wildlife during project construction and implementation, the following general avoidance and minimization efforts would be implemented:

AS-1 **Environmental Training Session:** Before construction begins, a qualified biologist shall conduct an environmental training session for all construction and maintenance personnel. At a minimum, the training shall include a description of the special-status species that may occur in the biological study area (BSA), their habitat requirements, and the measures being implemented to avoid and minimize impacts to these species. The environmental training shall include a discussion of the boundaries behind which the workers and equipment must remain.

AS-2 **Biological Monitor:** A qualified biologist shall be present at the work site until all ground-disturbing activities and instruction of workers have been completed, after which the Construction Contractor shall designate a monitor who shall ensure on-site compliance with all avoidance and minimization efforts when the qualified biologist is not on site. The qualified biologist shall ensure the monitor is familiar with the avoidance and minimization efforts and able to identify all the special-status species of potential occurrence in the BSA. The monitor and the qualified biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) at any point during construction. If work is stopped, either the qualified biologist or the on-site monitor shall immediately notify the California Department of Transportation (Caltrans) and the County of Monterey. If a federally listed species is found in the work area during construction and a Biological Opinion has not been issued for the project, then the qualified biologist must stop work and immediately notify Caltrans. Caltrans shall then consult with the USFWS or National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and shall then advise the Construction Contractor on how to proceed. Likewise, should a State-listed species be found in the work area for which no incidental take permit has been

issued, the County's Project Manager shall then consult with CDFW and shall advise the Construction Contractor on how to proceed.

AS-3 **ESA Fencing:** Prior to the start of construction in the Salinas River Channel and along the southern edge of Reservation Road, the qualified biologist shall identify locations for the placement of Environmentally Sensitive Area (ESA) fencing as well as an exclusion fence around the work area. The exclusion fence shall be placed along the outer edge of the ESA fencing to prevent terrestrial animals from entering the work area. The exclusion fence shall be staked and buried at least 6 inches into the soil. The approved biologist shall verify the correct placement and installation of the ESA and exclusion fences before work begins in the area.

AS-4 **Special-Status Species Survey:** Immediately before initial ground disturbance and/or vegetation clearing in the Salinas River Channel, the qualified biologist shall conduct a survey of the work area for special-status species. If special-status species are found, they shall be allowed to leave the work area on their own or, if approved by the USFWS and/or CDFW, the special-status species shall be relocated by the biologist to a safe place outside the work area.

AS-5 **River Monitoring:** During vegetation removal, initial grading, and other ground-disturbing activities in the Salinas River Channel, a qualified biologist shall monitor such activities for reptiles and other small wildlife exposed by such activities and then relocate them in a safe place outside the exclusion fence.

AS-6 **Routes and Boundaries:** Prior to the start of construction, the County of Monterey shall ensure that the number of access routes, the numbers and sizes of staging areas, and the total area of construction activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated both on plans and in the field prior to the start of construction activities.

AS-7 **Vegetation Removal and Trimming:** The County of Monterey shall ensure that vegetation removal and trimming for the access road and construction areas in the Salinas River Channel would be conducted during the nonbreeding season for birds (i.e., between September 1

and February 14). This shall discourage birds from nesting in construction areas and shall greatly reduce the potential for nesting birds to delay the construction schedule. If vegetation cannot be removed during the nonbreeding season, then preconstruction surveys shall be conducted to avoid impacts to nesting birds.

AS-8 **Nesting Birds:** If project construction takes place during the bird nesting season (February 15 to August 31), all suitable nesting habitat within 50 feet of the work limits shall be surveyed by a qualified biologist no more than 14 days prior to ground-disturbing/vegetation removal activities and again within 2 days (48 hours) of such activities. Areas outside the public right of way (ROW) shall not be surveyed for active nests unless such areas are visible from the public ROW. If an active nest is found, a qualified biologist shall delineate an appropriate buffer using plastic construction fencing (ESA fencing), pin flags, or other easily identified fencing material. If necessary, the biologist shall consult with the USFWS/CDFW to determine an appropriate buffer size. Typically, buffers range from 25 to 200 feet, depending on the species and the location of the nest. During construction, the qualified biologist shall conduct regular monitoring (at CDFW-approved intervals) to evaluate the nest for potential disturbances associated with construction activities. Construction within the buffer shall be prohibited until the qualified biologist determines the nest is no longer active. If an active nest is found after completion of the preconstruction surveys and after construction begins, all construction activities in the nest vicinity shall stop until a qualified biologist has evaluated the nest and erected an appropriate buffer around the nest. If establishment of the buffer is not feasible, the USFWS/CDFW shall be contacted for further avoidance and minimization guidelines.

AS-9 **Western Pond Turtle:** During the Salinas River Channel diversion activities, the approved biologist shall monitor the construction activity to ensure no direct impacts occur to turtles. Any turtles observed in the work area shall be captured by hand or with a dip net by the biologist and removed to a safe area downstream of the work area.

AS-10 **Western Red Bat:** During tree removal, the construction crew shall leave all limbs cut from trees such as red willow, black cottonwood, and/or eucalyptus in place overnight to allow time for bats to leave the trees during the night. A qualified biologist shall be on hand during tree removal to ensure that cut trees are left in place until the following morning.

AS-11 **Monterey Big-Eared Woodrat:** Before vegetation in the black cottonwood forest and red willow thicket is removed in the area upstream of Davis Road, the area shall be surveyed for woodrat nests by a qualified biologist. If any woodrat nests are located within the work area, they shall be disassembled by hand or with hand tools to allow any woodrats in the nest to move out of the work area. The nest material shall then be moved out of the work area.

In addition to the measures described above for special-status animal species, the following measures would also protect special-status animal species:

- Measure WQ-5 in Section 2.10, Water Quality and Storm Water Runoff
- Measures TE-1 and TE-2 in Section 2.21, Threatened and Endangered Species

2.21 Threatened and Endangered Species

2.21.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a No Effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by the CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the

coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.21.2 Affected Environment

The analysis of the potential effects of the proposed project on threatened and/or endangered species is based on the *Natural Environment Study* (NES) (2014) and the *Biological Assessment* (BA) (2014). The findings of the NES and BA are summarized in this section; detailed information, including the methodology for this analysis, is provided in the NES and the BA.

The most biologically diverse area within the biological study area (BSA) is located along the Salinas River Channel. This area is dominated by relatively natural vegetation types (e.g., black cottonwood forest, red willow thickets, sandbar willow thickets, arroyo willow thickets, and cattail marsh), that could support threatened and/or endangered species. Refer to Section 2.17, Natural Communities, for further discussion on sensitive naturally occurring communities within the BSA. Outside the Salinas River Channel, most of the BSA is dominated by agricultural fields (which are primarily used to grow vegetables and strawberries), unvegetated dirt lots, and roads.

2.21.2.1 Threatened and/or Endangered Plant Species

A special-status species list was compiled from a literature and database review of the California Natural Diversity Database (CNDDB) (CDFW 2014); the California Native Plant Society (CNPS) Online Edition (2014); the online databases of the collections in the California Academy of Sciences (CAS) in San Francisco and the Museum of Vertebrate Zoology (MVZ) at the University of California, Berkeley; the USFWS online list referencing the Chualar, Marina, Salinas, and Spreckels quadrangles in Monterey County; and other published sources. The list obtained from the above sources determined that 28 special-status plant species have the potential to occur in the BSA. Of these 28 special-status plant species, 8 are federally and/or State-listed endangered, threatened, or candidate species: Monterey spineflower (*Chorizanthe pungens* var. *pungens*), robust spineflower (*Chorizanthe robusta* var. *robusta*), seaside bird's beak (*Cordylanthus rigidus* ssp. *littoralis*), Yadon's

wallflower (*Erysimum menziesii* ssp. *yadonii*), sand gilia (*Gilia tenuiflora* ssp. *arenaria*), Contra Costa goldfields (*Lasthenia conjugens*), Tidestrome's lupin (*Lupinus tidestromii*), and Yadon's rein orchid (*Piperia yadonii*). In northern Monterey County, no special-status plant species occur in riparian areas, which is the primary native habitat within the BSA. Based on the field surveys conducted in 2006, 2008, 2009, and 2013, it was determined that no suitable habitat for these species is present within the BSA. None of the federally and/or State-listed plant species evaluated for the project are expected to occur in the BSA due to the absence of suitable habitat, and these species are not discussed any further in this section.

2.21.2.2 Threatened and/or Endangered Animal Species

After a thorough literature and database review, it was determined that 28 special-status wildlife species had the potential to occur in the BSA. Of these 28 special-status wildlife species, 16 are federally and/or State-listed as endangered, threatened, or candidate species (refer to Table 2.21.1): Smith's blue butterfly (*Euphilotes enoptes smithi*), vernal pool fairy shrimp (*Branchinecta lynchi*), tidewater goby (*Eucyclogobius newberryi*), South/Central California Coast steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*), California tiger salamander (*Ambystoma californiense*), Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*), California red-legged frog (*Rana draytonii*), California condor (*Gymnogyps californianus*), California clapper rail (*Rallus longirostris obsoletus*), snowy plover (*Charadrius alexandrines nivosus*), California least tern (*Sternula antillarum browni*), marbled murrelet (*Brachyramphus marmoratus*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and Southern sea otter (*Enhydra lutris nereis*). Based on the field surveys conducted in 2006, 2008, 2009, and 2013, it was determined that no suitable habitat is present within the BSA for 13 of these 16 species. Therefore, implementation of the project would result in a no effect finding for the 13 species for which there is no suitable habitat present within the BSA. Discussion regarding the remaining 3 potential federally and/or State-listed endangered, threatened, or candidate animal species that have the potential to occur within the BSA (i.e., South/Central California Coast steelhead DPS, California tiger salamander, and California red-legged frog) is provided below.

Table 2.21.1 Listed Species and Critical Habitat Potentially Occurring or Known to Occur in the BSA

Scientific Name	English Name	Status[1]	General Habitat Description	Habitat Present/ Absent[2]	Rationale
Insects					
Euphilotes enoptes smithi	Smith's blue butterfly	FE	Coastal dunes and sage scrub habitats in Monterey and Santa Cruz Counties*; Eriogonum latifolium* and *E. parvifolium* both larval and adult host plants.	A	Suitable habitat for this species is not present within the BSA; host plants not present. The project would have no effect on this species.
Crustaceans					
Branchinecta lynchi	Vernal pool fairy shrimp	FT	Vernal pools and temporary ponds.	A	This species occurs in vernal pools and temporary ponds. Fairy shrimp do not occupy perennial water bodies or streams. There are no suitable water bodies for fairy shrimp within the BSA. The project would have no effect on this species.
Fish					
Eucyclogobius newberryi	Tidewater goby	FE	Shallow brackish lagoons and low gradient stream reaches with aquatic vegetation and areas of open bottom. Most common in the upstream portions of lagoons with barrier beaches. Generally not found in lagoons with open mouths and strong tidal flow. Favors low salinity, generally less than 10 parts per thousand.	A	This California endemic occurs in the Salinas River and has been recorded up to 3 miles upstream from the Salinas River mouth. They have been documented to occur up to 8 miles upstream from the coastal lagoons in Santa Barbara County. They can occur with freshwater fish species, but apparently only breed in brackish water. Not likely to occur within the BSA due to distance from the river lagoon and flash flooding during winter storm events which would wash them out of the river. The project would have no effect on this species.

Table 2.21.1 Listed Species and Critical Habitat Potentially Occurring or Known to Occur in the BSA

Scientific Name	English Name	Status[1]	General Habitat Description	Habitat Present/ Absent[2]	Rationale
Oncorhynchus mykiss irideus	South/Central California Coast steelhead DPS	FT	Coastal Basin runs from the Pajaro River south to, but not including, the Santa Maria River.	P	Steelhead are known to occur in the Salinas River, but suitable spawning habitat is not present within the BSA. River pools are likely to be too warm during summer low flows to provide suitable rearing habitat. The BSA is within passage and possible holding habitat for adults moving to upstream spawning areas and a movement corridor for smolts heading downstream to the ocean.
Amphibians					
Ambystoma californiense	California tiger salamander	FT	Breeds in temporary pools (e.g., vernal pools) and ponds and occupies rodent burrows in grasslands, open valley oak and coast live oak woodland, and grassland chaparral mosaic. These salamanders migrate from their underground retreats to breeding ponds during periods of heavy winter rains.	A	Suitable breeding and upland habitat is not present in the BSA, upland habitat is unsuitable due to intensive disturbance from agriculture activities and areas along the river are subject to flooding. The closest known record is about 0.6 mile east of the BSA, but this location is now within an urban area (City of Salinas), and no suitable habitat remains. The next closest records are 1.5 and 1.6 miles west of the BSA at Reservation Road. The maximum reported movement distance from breeding ponds is 1.3 miles. Additionally, recent research shows that 95 percent of dispersing adults and juveniles occurs within 0.38 and 0.39 mile of breeding ponds, respectively. Based on this information, it is unlikely that this species occurs in the BSA. The project would have no effect on this species.

Table 2.21.1 Listed Species and Critical Habitat Potentially Occurring or Known to Occur in the BSA

Scientific Name	English Name	Status[1]	General Habitat Description	Habitat Present/ Absent[2]	Rationale
Ambystoma macrodactylum croceum	Santa Cruz long-toted salamander	FE	Breeds in temporary pools and ponds and occupies rodent burrows in oak woodland, chaparral and grasslands during the dry season, also found under surface litter such as fallen logs. Migration to breeding ponds occurs during nights with heavy rain from October to February, breeding occurs in January and February.	A	Occurs within 10 miles of the BSA to the north, but suitable breeding or upland habitat is not present on or adjacent to the BSA. The BSA is also isolated from areas of occurrence by heavily traveled roadways and extensive agricultural landscapes (barriers to dispersal for salamanders). The project would have no effect on this species.
Rana draytonii	California red-legged frog	FT	Lowlands and foothills; in or near permanent bodies of water with dense, shrubby, or emergent vegetation.	P	Suitable breeding and foraging habitat for California red-legged frogs is present in the BSA and the main stem of the Salinas River serves as a potential movement corridor to the upper Salinas River Watershed. Therefore, although not known to be present within the BSA, California red-legged frogs may be temporarily affected by the construction of the Davis Road Bridge if they are present during construction.
Birds					
Gymnogyps californianus	California condor	FE	Generally occurs in wild landscapes, searches for carrion while soaring over mountains, sea coasts, and grasslands, nests on cliffs or in cavities in tall trees.	A	This species is historically know from the County, but disappeared during the 20th century. This species was reintroduced into the Santa Lucia Mountains and the inner Coast Range at Pinnacles National Park. Not likely to occur within the BSA. The project would have no effect on this species.
Rallus longirostris obsoletus	California clapper rail	FE	Occurs in salt-water and brackish marshes traversed by tidal slough. Associated with abundant growth of pickleweed.	A	This is a salt marsh species; no suitable habitat is present in or near the BSA. The project would have no effect on this species.
Charadrius alexandrines nivosus	Snowy plover	FT	Sandy beaches, salt pond levees and shores of large alkali lakes. Requires barren areas with sandy, gravelly or friable soils for nesting.	A	Suitable nesting habitat is not present in the BSA. The project would have no effect on this species.

Table 2.21.1 Listed Species and Critical Habitat Potentially Occurring or Known to Occur in the BSA

Scientific Name	English Name	Status[1]	General Habitat Description	Habitat Present/ Absent[2]	Rationale
Sternula antillarum browni	California least tern	FE	Forages for small fish over open marine waters and nests in open barren habitat on islands, shorelines, dunes, salt-pond dikes, and dunes.	A	Suitable nesting and/or wintering habitat is not present in or adjacent to the BSA. The project would have no effect on this species.
Brachyramphus marmoratus	Marbled murrelet	FT	Nests in old growth or old mature redwood/coniferous forest and forages at sea.	A	Suitable nesting and foraging habitat is not present in or adjacent to the BSA. The project would have no effect on this species.
Empidonax traillii extimus	Southwestern willow flycatcher	FE	Nests and forages in riparian habitats dominated by willow thickets and other low riparian vegetation. Neotropical migrant, present during spring and summer, migrants in the fall.	P	Although structurally suitable habitat is present in the BSA and this species was known to historically nest along the Salinas River willow flycatchers are extirpated as a breeding species in the Monterey County. Additionally, the local breeding subspecies was most likely *E. t. brewsteri,* a State endangered species but not a federally listed species. The project would have no effect on this species.
Vireo bellii pusillus	Least Bell's vireo	FE	Nests in riparian habitats dominated by willow, forages in a variety of native riparian trees and shrubs and will sometime forage or nest in *Eucalyptus* adjacent to riparian areas. Neotropical migrant, present during spring and summer, migrants in the fall	P	Historically, this species was known to breed along the upper Salinas River (south of Greenfield) in southern Monterey County, but has only been sporadically observed in the County in recent years. Although structurally the riparian habitat within the BSA is suitable, this species was apparently never known to breed in areas near the coast in the summer fog belt within which the BSA is located. The project would have no effect on this species.
Mammals					
Vulpes macrotis mutica	San Joaquin kit fox	FE	Dry, open grasslands and foothills.	A	Suitable habitat is not present; the upper river floodplain may have supported suitable habitat historically, but intense agricultural activity now precludes the presence of this fox. The project would have no effect on this species.

Table 2.21.1 Listed Species and Critical Habitat Potentially Occurring or Known to Occur in the BSA

Scientific Name	English Name	Status[1]	General Habitat Description	Habitat Present/ Absent[2]	Rationale
Enhydra lutris nereis	Southern sea otter	FT	Near shore marine waters, kelp beds, estuaries.	A	This is a marine species; suitable habitat is not present. The project would have no effect on this species.

[1] Federal Endangered (FE); Federal Threatened (FT).
[2] Absent [A] - no suitable habitat present; Present [P] – suitable habitat is present.
BSA = biological study area

South/Central California Coast Steelhead DPS

The South/Central Coast steelhead DPS is a federally listed threatened species. This DPS includes populations spawning in the Pajaro River, Salinas River, and Carmel River, and in the streams of the Big Sur coast (south through San Luis Obispo County to Point Conception) in Santa Barbara County. South/Central California Coast steelhead DPS are winter run (i.e., they enter their spawning streams during high flows after winter storms and move upstream to their spawning grounds). Most of the streams occupied by South/Central California Coast steelhead DPS also support resident fish (referred to as rainbow trout), which are genetically identical to the anadromous fish in their stream.

This species was not observed in the BSA during the field surveys, and no surveys for this species were conducted. The presence of steelhead in the BSA is assumed based on the fact that the BSA encompasses a portion of the Salinas River that the fish would pass through on their way to known spawning areas upstream of the BSA. Adults moving upstream to spawn and smolts moving downstream to the Pacific Ocean would be expected to pass through the BSA during high flows in the winter and early spring.

South/Central California Coast Steelhead DPS Critical Habitat

The South/Central California Coast steelhead DPS is a federally listed threatened species. Critical habitat for the South/Central California Coast steelhead DPS includes the tributaries of the Salinas River within the BSA. At any given site, within designated areas of critical habitat, certain essential habitat features must be present for the critical habitat designation to apply. Essential habitat features for steelhead are: (1) juvenile rearing areas, (2) juvenile migration corridors, (3) areas for growth and development to adulthood, (4) adult migration corridors, and (5) spawning areas. The BSA supports juvenile migration and adult migration corridors and may also support juvenile rearing areas. Habitat features present within the BSA are juvenile migration corridors and adult migration corridors.

Within these habitat types, essential features of critical habitat include adequate: (1) substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, and (10) safe passage conditions. Depending on season and water flow, all these features are present in the BSA.

The BSA is included in the designated critical habitat for the South/Central California Coast steelhead DPS as identified by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service). Essential Fish Habitat (EFH) has not been designated anywhere for this species.

California Tiger Salamander

The California tiger salamander is federally and State-listed as a threatened species. California tiger salamanders spend most of their lives in burrows in upland areas (typically grasslands and oak woodlands) that are interspersed with vernal pools and/or ponds (e.g., stock ponds), which provide breeding habitat. The maximum reported movement distance from upland burrows to breeding ponds is 1.3 miles (mi). Additionally, recent research shows that 95 percent of dispersing adults and juveniles occur within 0.38 mi and 0.39 mi of breeding ponds, respectively. There are a number of historical records of California tiger salamander within 2 mi of the BSA, but no suitable habitat occurs within or immediately adjacent to the BSA. The project is not within designated Critical Habitat for California tiger salamander.

No specific surveys for California tiger salamander were conducted because the habitat on and within 1.3 mi of the BSA is not suitable for this species. A review of the historical and current occurrence records show that all extant populations are greater than 1.3 mi from the BSA. There is a historical record for California tiger salamander near the north end of the BSA in what is now a developed portion of the City of Salinas. This record dates from 1952 and lies approximately 0.6 mi northeast of the BSA. The location where the salamander was found is now completely developed and has no connection to natural open space areas and therefore provides no habitat for this species. No other occurrences of California tiger salamanders are recorded in the CNDDB within 2 mi of the BSA north of Reservation Road. South of Reservation Road, the habitat changes significantly because these lands were part of the former Fort Ord Army Base and are largely undeveloped except for dirt roads and various training facilities. The base closed in 1994, and much of the former base now lies within the Fort Ord National Monument. All of the recorded California tiger salamander occurrences south of Reservation Road are 1.5 mi or greater from the BSA, with the intervening lands all in agricultural use, thereby making those lands unsuitable for this species.

The Salinas River Channel does not provide breeding habitat for California tiger salamanders because the larvae are not adapted to flowing streams or rivers where high winter and spring flows and flooding would wash breeding adults, eggs, and

developing larvae downstream to the Pacific Ocean. Instead, eggs are deposited and hatch in vernal pools and ponds (e.g., stock ponds) where the larvae develop and eventually leave the ponds to seek refuge in burrows in the uplands surrounding the ponds.

California tiger salamanders are not expected to occur in the BSA because: (1) neither suitable upland nor breeding habitat occurs on or adjacent to the BSA, (2) all recorded locations for tiger salamander are either extirpated or greater than the accepted movement distance from the BSA, and (3) there is no connection between the BSA and other occupied habitat. Based upon available data, it appears that the project would have no effect on California tiger salamander; however, a final determination will not be made until the Biological Assessment is prepared for the preferred alternative. Because the California tiger salamander is not likely to occur in the BSA and the data suggests that the project would have no effect on this species, California tiger salamander is not discussed further in this section.

California Red-Legged Frog

The California red-legged frog is listed as a federally threatened species and a California species of special concern. USFWS protocol surveys for California red-legged frogs were not conducted in the BSA pending a response to the formal Site Assessment conducted according to the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005) submitted to the USFWS in February 2014. Binoculars (10x40 power) were used in a special effort to search for California red-legged frogs during general field surveys of the BSA, and none were observed. There are few known historical records for California red-legged frogs from the lower Salinas River Valley, but this area is within the presumed historic range of this amphibian. There are no known records of red-legged frogs within 2 mi of the BSA. Most records from the area are clustered in freshwater aquatic habitats along the edge of Monterey Bay; however, there is one record for this species from approximately 5.8 river miles (4.8 straight-line miles) downstream of the BSA at the Monterey County Water Resources Agency's Salinas River Diversion Facility (SRDF). At this location, California red-legged frogs were observed in a rainwater pool; five sub-adult frogs were observed in 2008, and one sub-adult frog was observed in 2009. Emergent aquatic vegetation (*Juncus* sp.) was present at the rainwater pool in 2008, and the site was described as "denuded of vegetation" in 2009. Threats to frogs at the SRDF were identified as habitat removal, habitat alteration, and the presence of bullfrogs. Due to the lack of California red-legged frog occurrences in the Salinas River upstream of the SRDF, the frogs at the SRDF likely

originated from a frog population downstream of the facility and closer to Monterey Bay.

The habitat along the river in the BSA contains elements of suitable California red-legged frog habitat (e.g., pools 2 feet or greater in depth, emergent aquatic vegetation), and similar riparian/aquatic habitat extends along the reach of the Salinas River between the BSA and the SRDF. However, upland areas (outside the channel) between the SRDF and the BSA are occupied by an intensively cultivated agricultural landscape that is unsuitable for frogs.

2.21.3 Environmental Consequences

2.21.3.1 Temporary Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any temporary impacts related to threatened and/or endangered species.

Build Alternatives

South/Central California Coast Steelhead DPS

Suitable spawning habitat for South/Central California Coast steelhead DPS is not present in the BSA or its immediate vicinity, but the main stem of the Salinas River in the BSA is an essential migration corridor for the steelhead spawning in the upper Salinas River Watershed. The Salinas River Channel would be diverted during construction, but fish movements up and downstream would not be restricted. No adverse temporary impacts to steelhead are expected during the construction for the following reasons: (1) no in-water work would be conducted during construction of the bridge; (2) water flow in the Salinas River would be maintained through the BSA, thereby allowing unrestricted passage through the BSA; (3) work would be conducted during the period when steelhead are least likely to be present in the low-flow channel of the river; and (4) except for the piers, all construction impacts in the Salinas River would be temporary, and the river corridor would be restored following construction of the bridge. The Build Alternatives may affect, but are not likely to adversely affect, South/Central California Coast steelhead DPS by implementing Measures TE-1 and TE-2 (which would require river channelization and restrict pile driving) and Measure WQ-5 from Section 2.10, Water Quality and Storm Water Runoff (which would require implementation of Caltrans Best Management Practices [BMPs] to minimize impacts to water quality). Therefore, there would be no temporary adverse effects to steelhead with implementation of Measures TE-1, TE-2, and WQ-5.

South/Central California Coast Steelhead DPS Critical Habitat

Suitable spawning habitat for South/Central California Coast steelhead DPS is not present in the BSA or its immediate vicinity, but the main stem of the Salinas River in the BSA is an essential migration corridor for the steelhead spawning in the upper watershed and for young steelhead migrating downstream to the Pacific Ocean. Construction activities in the riverbed could affect steelhead Critical Habitat through channel diversion and the removal of riparian vegetation. However, all effects (channel diversion and removal of riparian vegetation) from the Build Alternatives to Critical Habitat within the BSA would be temporary. In addition, no adverse temporary impacts to steelhead Critical Habitat are expected during construction for the following reasons: (1) no in-water work would be conducted during construction of the bridge; (2) flow in the Salinas River would be maintained through the BSA, thereby allowing unrestricted passage through the BSA; (3) work would be conducted during the period when steelhead are least likely to be present in the low-flow channel of the river; and (4) except for the piers, all construction impacts in the Salinas River would be temporary, and the river corridor would be restored following construction of the bridge. With implementation of Measures TE-1 and TE-2 (which would require river channelization and restrict pile driving) and Measure WQ-5 from Section 2.10, Water Quality and Storm Water Runoff (which would require implementation of Caltrans BMPs to minimize impacts to water quality), the Build Alternatives may affect, but are not likely to adversely affect, steelhead Critical Habitat. Therefore, with implementation of Measures TE-1, TE-2, and WQ-5, there would be no temporary adverse impacts to steelhead Critical Habitat.

California Red-Legged Frog

Suitable breeding and foraging habitat for California red-legged frogs is present in the BSA and the main stem of the Salinas River serves as a potential movement corridor to the upper Salinas River Watershed. Therefore, although not known to be present within the BSA, California red-legged frogs may be temporarily affected by the construction of the Davis Road Bridge if they are present during construction. Temporary impacts may result from diversion of the Salinas River Channel during construction, implementation of protection measures such as barrier fence, and relocation of frogs or tadpoles out of the work area. No adverse temporary impacts to California red-legged frogs are expected during the construction for the following reasons: (1) the project would implement preconstruction surveys and monitoring and avoidance measures during construction consistent with the terms of the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (8-8-10-F-58)*; (2) no in-

water work would be conducted during construction of the bridge; (3) water flow in the Salinas River would be maintained through the BSA, thereby allowing unrestricted passage through the BSA; (4) work would be conducted during the period of low flows in the river when California red-legged frogs are least likely to be moving up and down the river; and (5) except for the piers, all construction impacts in the Salinas River would be temporary, and the river corridor would be restored following construction of the bridge. The Build Alternatives may affect, but are not likely to adversely affect, California red-legged frogs during project construction by implementing Measures TE-3 (PBO) as well as TE-1 and TE-2 (which would require river channelization and restrict pile driving).Therefore, there would be no temporary adverse effects to California red-legged frogs with implementation of Measures TE-1, TE-2, and TE-3.

2.21.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent impacts related to threatened and/or endangered species.

Build Alternatives

South/Central California Coast Steelhead DPS

As stated previously, suitable spawning habitat for the South/Central California Coast steelhead DPS is not present in the BSA or its immediate vicinity, but the main stem of the Salinas River in the BSA is an essential migration corridor for steelhead spawning in the upper Salinas River Watershed. The Build Alternatives would remove the old bridge (including abutments and piles, associated riprap, and the old roadbed, which is currently in the Salinas River Channel) and restore elevations to the current high-flow channel level. This would result in a wider, more natural stream channel and flow dynamic, thereby increasing steelhead passage habitat in this reach of the Salinas River. The replacement of the bridge and roadway is expected to allow steelhead to move more easily through the BSA, thereby facilitating species' access to the upper reaches of the watershed, where suitable spawning habitat occurs.
The Build Alternatives would have similar permanent impacts. However, for Alternative 2, a two-lane bridge may have slightly less shading on the channel bottom and two-thirds fewer pilings permanently installed in the riverbed compared to the four-lane bridge for the Preferred Alternative. These differences are expected to be minimal. In addition, Build Alternatives are consistent with the South-Central California Coast Steelhead Recovery Plan as it contributes to the restoration of

natural channel features of the Salinas River. Therefore, the Build Alternatives would result in a beneficial effect to steelhead passage habitat in the Salinas River.

South/Central California Coast Steelhead DPS Critical Habitat

As stated previously, suitable spawning habitat for the South/Central California Coast steelhead DPS is not present in the BSA or its immediate vicinity, but the main stem of the Salinas River in the BSA is an essential migration corridor for the steelhead spawning in the upper watershed and for young steelhead migrating downstream to the Pacific Ocean. Implementation of the Build Alternatives would not result in permanent impacts to any essential features of Critical Habitat for steelhead. The Build Alternatives would help restore the section of the Salinas River in the BSA to a more natural flow dynamic, thus improving the Critical Habitat for steelhead.

California Red-Legged Frog

Although a combination of factors suggests that California red-legged frogs are absent from the BSA such as the lack of records for this species within 1 mi of the BSA; the lack of records for this species along the Salinas River upstream of the BSA (i.e., the species could not be washed downstream to the site from upstream); the lack of observations of this species in the BSA during six general field surveys; the presence of native and presumably nonnative predatory fish; and the presence of a population of American bullfrogs (populations of nonnative American bullfrogs and/or nonnative game fish are factors known to be detrimental to California red-legged frog populations); none of these factors, either individually or in combination, provide the ability to make a conclusive determination that California red-legged frogs are currently or will at the time of construction be absent from this site. With the presence of California red-legged frogs documented from 5.8 river miles downstream of the project site, no barriers to movement of frogs between the project site and the downstream location, and the lack of protocol-level survey data to prove absence from the project site, Caltrans has determined that the Davis Road Bridge Replacement project may affect California red-legged frogs if they occur at the site during construction, although the project is not likely to adversely affect the frogs that potentially occur at this location.

The BSA is not located within designated Critical Habitat for California red-legged frog so no adverse modification of critical habitat will occur.

2.21.3.3 Federal Endangered Species Act Consultation

Under provisions of Section 7(a)(2) of FESA, a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the USFWS to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify Critical Habitat. The California Department of Transportation (Caltrans), as part of its National Environmental Policy Act (NEPA) assignment of federal responsibilities by the FHWA (effective October 1, 2012, and pursuant to 23 USC 326), will act as the lead federal agency for Section 7 of the FESA. As the project may affect, but is not likely to adversely affect, federally listed California red-legged frog, consultation with the USFWS will be required. Based on this preliminary determination, Caltrans shall request that the project be appended to the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (8-8-10-F-58)* (PBO). In addition, because the project may affect, but is not likely to adversely affect, federally listed steelhead and critical habitat for steelhead, consultation with the NOAA Fisheries Service will be required. Caltrans will initiate consultation with USFWS and NOAA Fisheries Service after a preferred alternative has been identified.

2.21.3.4 California Endangered Species Act Consultation

CESA protects plant and animal species listed as threatened or endangered as well as candidates for listing. Take of listed and candidate species is authorized by CDFW through the provisions of Sections 2081 and 2081.1 of the California Fish and Game Code. No species listed under CESA are known to occur within the BSA; therefore, no consultation with the CDFW regarding State-listed species is required.

2.21.4 Avoidance, Minimization, and/or Mitigation Measures

2.21.4.1 Steelhead

The following avoidance and minimization efforts would protect South/Central California Coast steelhead DPS and other native fish species that may occur in the BSA during construction activities. These draft measures are included in the 2014 BA. These measures will include the final terms and conditions in the Biological Opinion.

TE-1 **River Channelization:** The County of Monterey (County) shall ensure that work within the river (i.e., in and adjacent to water) shall be restricted to the period between June 15 and October 15 to minimize potential impacts to steelhead. During construction, the river would not be dewatered. The river shall be channelized during

construction, but the County shall retain a qualified biologist who shall ensure that the channelization shall not restrict flow and shall allow for unrestricted passage of adult and juvenile steelhead through the BSA.

TE-2 **Pile Driving:** Pile driving in the water will not be required during construction of the Davis Road Bridge. The County shall ensure that pile driving shall be conducted on dry land during periods of low water flow (June 15 to October 15), when steelhead are least likely to be present in the BSA. Because pile driving shall occur only on dry land and during the period when steelhead would least likely be present in the BSA, pile driving is not expected to affect steelhead.

In addition to the measures described above for threatened and endangered species, the following measure would also protect threatened and endangered species:

- Measure AS-2 in Section 2.20, Animal Species
- Measure WQ-5 in Section 2.10, Water Quality and Storm Water Runoff

2.21.4.2 California Red-Legged Frog

The project may affect California red-legged frogs. In order to ensure that impacts to California red-legged frogs are avoided and minimized and to provide take coverage to the project during construction, Caltrans will request that the USFWS append the project to the PBO.

TE-3 **Programmatic Biological Opinion:** Caltrans shall request that the project be appended to the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (8-8-10-F-58)* (PBO). The project will implement all of the avoidance and minimization measures described in the PBO (Appendix G).

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2.22 Invasive Species

2.22.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State's invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.22.2 Affected Environment

The information in this section is based on the *Natural Environment Study* (NES) (2014) prepared for the proposed project.

2.22.2.1 Invasive Plant Species

Invasive plant species were categorized following the classifications provided in the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory, which lists noxious weeds and invasive plants in California. The Inventory provides rating (high, moderate, and limited) designations for invasive plant species. Plants with a high rating have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure, and have reproductive biology and other attributes that are conducive to moderate to high rates of dispersal and establishment. Plants with a moderate rating have substantial and apparent, but not severe, ecological impacts. Plants with a limited rating are invasive, but their ecological impacts are minor on a statewide level and therefore do not warrant further discussion. These ratings reflect the view of the Cal-IPC on the statewide importance of the invasive species, the likelihood that eradication or control efforts would be successful, and the present distribution of invasive species in the State.

Nonnative invasive plant species do occur in the BSA but typically in areas that have been previously disturbed, such as along roadsides or in places that have periodic natural disturbances including areas subject to floods along the Salinas River. In the BSA, most areas adjacent to agricultural fields are intensively managed for weeds and few invasive species are present.

Of the nonnative invasive plant species listed on the Cal-IPC Inventory, 16 were identified in the BSA: 4 with an overall high rating, 7 with a moderate rating, and 5 with a limited rating. The 4 plants observed in the BSA that have a high rating are: giant reed (*Arundo donax*), Cape-ivy (*Delairea odorata*), fennel (*Foeniculum vulgare*), and perennial pepperweed (*Lepidium latifolium*). The 7 plants observed in the BSA that have a moderate rating are: wild oat (*Avena fatua*), black mustard (*Carduus pycnocephalus*), Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), Bermuda grass (*Cynodon dactylon*), blue gum (*Eucalyptus globulus*), and tree tobacco (*Nicotiana glauca*). The 5 species observed in the BSA with a limited rating are burclover (*Medicago polymorpha*), prickly ox-tongue (*Helminthotheca echioides*), rabbit's-foot grass (*Polypogon monspeliensis*), wild turnip (*Raphanus sativus*), and curly dock (*Rumex crispus*). Species with a limited rating are considered invasive, but their ecological impacts are either minor on a statewide level or there is not enough information to justify a higher score; therefore, they are not discussed further in this section.

2.22.2.2 Invasive Wildlife Species

Invasive wildlife species are nonnative, have a large capacity for reproduction and distribution, and have a negative impact on the environment that can result in severe ecological impacts. Nonnative invasive wildlife species with the potential to occur in the BSA include nonnative bullfrogs, crayfish, nonnative turtles (i.e., red-eared sliders), and centrarchid fishes. These species are undesirable in natural habitats and may compete with native species for resources (e.g., food, refuges, basking sites, and nest sites). In addition to being competitors with native species, nonnative species are often predators of native species. Through competition and predation, nonnative wildlife species may have a serious impact on native species and habitats.

The only invasive wildlife species that was observed in the BSA was the American bullfrog. This nonnative species was introduced into California over 100 years ago and is now widely distributed in the State. American bullfrogs, including numerous tadpoles, were common in the bridge pool. These aquatic frogs are among the largest anurans in North America, reaching a length of up to 8 inches. Bullfrogs are voracious predators and have been implicated in the decline of many native amphibian and several reptile species, including the California red-legged frog (*Rana draytonii*). Due to the abundance of American bullfrogs in the bridge pool, they have likely had negative effects on the native aquatic fauna in the BSA.

2.22.3 Environmental Consequences

2.22.3.1 Temporary Impacts

Impacts related to invasive species are considered permanent impacts because the introduction of invasive species into previously undisturbed areas would result in permanent impacts to the habitat. Therefore, impacts related to invasive species are described in Section 2.22.3.2, Permanent Impacts.

2.22.3.2 Permanent Impacts

No Build Alternative

Under the No Build Alternative, no improvements to Davis Road or the Davis Road Bridge would be made. Therefore, the No Build Alternative would not result in any permanent impacts related to invasive species.

Build Alternatives

Construction of the Build Alternatives has the potential to spread invasive plant species via: entering and exiting construction vehicles and equipment that have been contaminated by invasive plant species, the inclusion of invasive plant species in seed mixtures and mulches, and the improper removal and disposal of invasive plant species. In the long term, the continued introduction of new and existing species is expected as a result of seeds transported on tires and auto bodies. As specified in Measure IS-1, measures to prevent the introduction and spread of invasive species as a consequence of the construction of the Build Alternatives would be implemented through a Weed Abatement Program. None of the species on the California Invasive Plant Inventory is used by the California Department of Transportation (Caltrans) for erosion control or landscaping. In addition, all equipment and materials would be inspected for the presence of invasive plant species. With implementation of Measure IS-1, potential permanent impacts related to invasive plant species would not be adverse.

As described above, invasive wildlife species have the potential to occur in the BSA and would have negative impacts on aquatic species and the aquatic habitat. American bullfrogs, including numerous tadpoles, were observed in the bridge pool, and they likely have had negative effects on the native aquatic fauna in the BSA. The Build Alternatives could facilitate the movement of or the spreading of invasive wildlife species. However, Measure IS-2 would require the implementation of a program to remove and monitor nonnative wildlife species during and after construction. Therefore, with implementation of Measure IS-2, the Build Alternatives would not result in any adverse permanent effects from invasive species, and may

even result in beneficial effects to native species through the improvement of aquatic habitat due to the removal of invasive wildlife species.

2.22.4 Avoidance, Minimization, and/or Mitigation Measures

In compliance with EO 13112 on Invasive Species, the following measures would be implemented to avoid and/or minimize the introduction and spread of invasive species into the BSA:

IS-1 **Weed Abatement Program:** During construction, the County of Monterey (County) shall ensure that the Construction Contractor implements a weed abatement program to minimize the importation of nonnative plant material during and after construction. Eradication strategies would need to be employed should an invasion occur. Measures addressing invasive species abatement and eradication shall be included in the project design and contract specifications, and shall be implemented and enforced by the Construction Contractor. At a minimum, this weed abatement program would include the following:

- During construction, the Construction Contractor shall inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another.
- During construction, soil and vegetation disturbance shall be minimized to the greatest extent feasible.
- During construction, the Construction Contractor shall ensure that all active portions of the construction site are watered a minimum of twice a day or more often when needed due to dry or windy conditions to prevent excessive amounts of dust and seed dispersal.
- During construction, the Construction Contractor shall ensure that all stockpiled material is sufficiently watered or covered to prevent excessive amounts of dust and seed dispersal.
- During construction, soil/gravel/rock shall be obtained from weed-free sources.
- All invasive plant material removed from the biological study area (BSA) shall be disposed of properly in a landfill or other suitable facility, where it shall be chipped and composted to prevent spreading viable seeds or propagules that could take root on another site.

- Only certified weed-free straw, mulch, and/or fiber rolls shall be used for erosion control.
- After construction, impacted areas adjacent to native vegetation shall be revegetated with plant species that are native to the vicinity and approved by the County of Monterey.
- After construction, all revegetated areas would avoid the use of species listed in the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory that have a high or moderate rating.
- Eradication procedures (e.g., spraying and/or hand weeding) shall be outlined should an infestation occur. The use of herbicides shall be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the County of Monterey.

IS-2 **Removal of Invasive Wildlife:** The County shall develop a program to remove and monitor invasive, nonnative wildlife species during and after construction. Measures addressing invasive species abatement and eradication shall be included in the project design and contract specifications, and shall be implemented and enforced by the Construction Contractor. At a minimum, the program shall include the following:

- Nonnative wildlife shall not be returned to the river or any other natural water body.
- During project construction, a qualified biologist shall permanently remove individuals of nonnative, invasive wildlife species (e.g., bullfrogs, crayfish, nonnative turtles, and centrarchid fish) from the project area and dispatch them humanely.

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2.23 Cumulative Impacts

2.23.1 Regulatory Setting

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

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

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under the National Environmental Policy Act (NEPA), can be found in 40 Code of Federal Regulations (CFR) Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

2.23.2 Methodology

The cumulative impacts analysis for the proposed project was developed by following the eight-step process as set forth in the Guidelines for Preparers of Cumulative Impact Analysis (California Department of Transportation [Caltrans], June 2005), posted on the Caltrans Standard Environmental Reference (SER) website (www.dot.ca.gov/ser/guidance.htmNo.cumulative). The eight-step process is as follows:

1. Identify the resources to consider in the cumulative impacts analysis by gathering input from knowledgeable individuals and reliable information sources. This

process is initiated during project scoping and continues throughout the NEPA/ CEQA analysis.
2. Define the geographic boundary or Resource Study Area (RSA) for each resource to be addressed in the cumulative impacts analysis.
3. Describe the current health and historical context of each resource.
4. Identify the direct and indirect impacts of the proposed project that might contribute to a cumulative impact on the identified resources.
5. Identify a set of other current and reasonably foreseeable future actions or projects and their associated environmental impacts to include in the cumulative impacts analysis.
6. Assess cumulative impacts.
7. Report the results of the cumulative impacts analysis.
8. Assess the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact.

As specified in the Caltrans guidance, if the proposed project would not result in a direct or indirect impact to a resource, it would not contribute to a cumulative impact on that resource. This cumulative impacts analysis includes resources that would be substantially impacted by the proposed project, as well as resources that are currently in poor or declining health or that would be at risk even if proposed project impacts were not substantial.

The reasonably foreseeable actions used in this cumulative analysis were based on information provided by the County of Monterey Public Works Department (refer to Table 2.23.1).

2.23.3 Resources Excluded from Cumulative Impact Analysis

As specified in the Caltrans guidance, if the proposed project would not result in a direct or indirect impact to a resource, it would not contribute to a cumulative impact on that resource and therefore need not be evaluated with respect to potential cumulative impacts.

Those resources for which cumulative effects are not anticipated are briefly discussed below:

- **Coastal Zones:** The project area is not located within the Coastal Zone; therefore, the proposed project would not contribute to cumulative adverse impacts to coastal zones.

Table 2.23.1 Cumulative Project List

Project Name	Location	Land Use/Description	Status
East Garrison Development	244 ac of the FFO military base	Construction of up to 1,470 residences, 75,000 sq ft of commercial uses, 11,000 sq ft of public and institutional uses, 100,000 sq ft of artist/cultural/educational uses, approximately 50 ac of open space, and construction of associated roadways, landscaping, and utility infrastructure.	Approved and under construction
The Dunes on Monterey Bay	429 ac of the FFO military base	Construction of up to 1,237 residences, regional and promenade retail, hotels, offices, and parks in the City of Marina.	Approved and under construction
Marina Heights	248 ac of the FFO military base	Removal of 828 abandoned residential units and construction of 1,050 townhomes, cottages, single-family residential uses, and 35 ac of parks, greenbelts, and open space in the City of Marina.	Approved and ready for construction
Marina-Salinas Multimodal Corridor	1.1 mi corridor connecting Marina to Salinas	Construction of 1.1 mi segment of the Multimodal Corridor that will include BRT service, bicycle/pedestrian connectivity, and a regional open space trail network.	Pending

Source: *East Garrison Specific Plan*, Urban Design Associates (2005).
Source: City of Marina. 2015. *The Dunes on Monterey Bay.* http://www.ci.marina.ca.us/index.aspx?nid=204.
Source: City of Marina. 2015. *Marina Heights.* http://www.ci.marina.ca.us/index.aspx?nid=202.
Source: *Marina Multimodal Corridor Conceptual Plan*, Transportation Agency for Monterey County (2014), http://tamcmonterey.org/programs/MMCorridor/.
ac = acres
BRT = bus rapid transit
FFO = Former Fort Ord
mi = miles
sq ft = square feet

- **Wild and Scenic Rivers:** There are no wild and scenic rivers in the project area; therefore, the proposed project would not contribute to cumulative adverse impacts to wild and scenic rivers.
- **Parks and Recreational Facilities:** The proposed project would not impact parks or recreational facilities; therefore, the proposed project would not contribute to cumulative adverse impacts to any parks or other recreational facilities/uses.
- **Relocations and Real Property Acquisitions:** The proposed project would not relocate or displace any people or structures within the project area. As discussed in Section 1.4, Alternatives, the Build Alternatives would acquire portions of the parcels that border Davis Road due to roadway widening and/or improvements. However, the parcel acquisition was included in the preliminary design phase of the proposed project, and no adverse impacts would occur. Therefore, the proposed project would not contribute to cumulative adverse impacts associated with relocations or real property acquisitions.
- **Environmental Justice:** Since the project has no adverse community impacts and thus no environmental justice impacts; therefore, the proposed project would not contribute to cumulative adverse impacts associated with environmental justice.

- **Growth:** The Build Alternatives would improve accessibility and circulation throughout the project area. However, the Build Alternatives would not induce growth or increase the overall capacity of the transportation system. Therefore, the proposed project would not contribute to cumulative adverse impacts related to growth.
- **Land Use:** The roadway and bridge improvements of the Preferred Alternative would be consistent with local and regional goals and policies to replace the Davis Road Bridge and improve the existing transportation corridor. Alternative 2 would be consistent with the goals and policies to replace the existing Davis Road Bridge; however, since Alternative 2 does not include widening Davis Road, Alternative 2 would be inconsistent with some of the regional goals and policies to improve the existing transportation corridor. The Build Alternatives would not drastically change the land uses in the area because the improvements and/or modifications would be made to an existing transportation facility. Therefore, no adverse cumulative impacts related to land use are expected.
- **Utilities and Emergency Services:** With the exception of short-term effects during construction (i.e., service disruptions from the relocation of utility facilities and temporary road closures), the Build Alternatives would not result in adverse effects to utilities and emergency services. Therefore, because the proposed project would not adversely affect utilities or emergency services, it would not contribute to cumulative adverse effects to utility facilities and emergency service providers.
- **Community Character and Cohesion:** Based on the analysis of demographic data and community cohesion indicators included in Section 2.4, Community Impacts, and because the project area is in a rural, primarily agricultural landscape, the project area does not exhibit an overall pronounced degree of community character and cohesion. Therefore, the proposed project would not contribute to cumulative adverse effects related to community character and cohesion.
- **Visual/Aesthetics:** The Build Alternatives would not add any new types of roadway features but would modify and/or replace existing facilities. The proposed roadway features would be consistent with the features of the existing roadway. Therefore, the proposed project would not contribute to cumulative adverse effects to visual resources.
- **Hydrology and Floodplain:** The Build Alternatives would replace the existing Davis Road Bridge with a longer 1,700-foot (ft) bridge that would be placed out of the floodway; therefore, the Build Alternatives would not result in a floodway

encroachment. Additionally, the new bridge would result in a lower water surface elevation compared to the existing conditions and would not increase the base flood elevations. Therefore, the proposed project would not contribute to cumulative adverse effects related to hydrology and floodplains.

- **Geology/Soils/Seismic/Topography:** The potential impacts of the Build Alternatives related to geologic conditions and soils would be avoided or minimized based on the findings of the Final Geotechnical Report and implementation of Best Management Practices (BMPs). As a result, the Build Alternatives would not contribute to cumulative adverse impacts related to geology and soils.
- **Paleontological Resources:** The oldest stratum in the project area, which is located at the northern end, dates back to Early Holocene. Early Holocene is too recent for significant paleontological resources to occur. In addition, there are no records of fossils occurring in geologic units within or adjacent to the project area. Therefore, there is a low potential for paleontological resources to be encountered. The majority of the construction activities along Davis Road would involve minor ground disturbance that would not extend to a depth where fossils occur. Installation of the bridge footings would involve excavation to deeper depths (40 to 60 ft) at which there is a higher potential for fossils to be encountered. Drilling activities generally grind up and destroy any fossils, making them unrecoverable. However, as stated previously, there is a low potential for fossils to occur in the project area. In addition, in the rare occurrence that fossils are encountered during drilling activities, the fossils would be removed from their stratigraphic context making them less useful for scientific study. Therefore, the proposed project would not contribute to cumulative adverse effects related to paleontological resources.
- **Energy:** The Build Alternatives would result in one-time energy expenditure to manufacture materials for construction; however, this would be offset by the improved functionality and traffic flow of Davis Road. Implementation of the Build Alternatives would result in an incremental increase in energy use due to streetlights and the traffic signal at the Davis Road/Hitchcock Road intersection; however, this increase would be considered negligible. Therefore, the proposed project would not contribute to cumulative adverse effects related to energy use.
- **Plant Species:** The project area does not contain suitable habitat for any special-status plant species, and no special-status plants were observed or otherwise detected during field surveys of the project area. As a result, the Build

Alternatives would not impact special-status plant species and therefore would not contribute to cumulative adverse effects related to special-status plant species.

- **Invasive Species:** The Build Alternatives would not substantially increase the potential for the spread of invasive species. Compliance with standard procedures would address the potential spread of invasive species. Therefore, the proposed project would not contribute to cumulative adverse effects related to invasive species.
- **Traffic and Transportation/Pedestrian and Bicycle Facilities:** The Build Alternatives would replace the existing Davis Road Bridge with a longer bridge to provide a safe, all-weather crossing over the Salinas River. The Preferred Alternative would improve the level of service (LOS) along Davis Road and reduce delays at the intersections. The Preferred Alternative would result in a beneficial effect to traffic operations along Davis Road. Alternative 2 would not involve any roadway or intersection improvements; therefore, the LOS would continue to decrease and delays at the intersections would increase. The analysis of future traffic conditions for existing conditions and Year 2040 in Section 2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, is a cumulative analysis that used the Association of Monterey Bay Area Governments (AMBAG) travel model, which projects future traffic volumes by calculating the projected growth. Therefore, the proposed project would not contribute to cumulative adverse effects related to traffic and transportation.
- **Air Quality:** The analysis of air quality provided in Section 2.14, Air Quality, is a cumulative analysis in that it considers the emissions of traffic generated by existing and future planned land uses and the effects of other future planned transportation improvements. Temporary air quality impacts would be minimized through implementation of dust control and equipment management measures. The proposed project would not increase the traffic volumes along Davis Road or worsen the delay at any of the intersections in the project area. The proposed project would not violate any air quality standard, would not contribute substantially to an existing air quality violation, and would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the proposed project would not contribute to cumulative adverse effects associated with air quality.
- **Noise:** The analysis of noise impacts provided in Section 2.15, Noise, is a cumulative analysis in that it considers the traffic noise generated by existing and future planned land uses and the effects of other future planned transportation improvements on the noise environment. Two sensitive receptors were identified along Davis Road that would approach or exceed the Noise Abatement Criteria

(NAC) under Category B from implementation of the Preferred Alternative. However, since the cumulative projects considered for this analysis are not located on Davis Road, the proposed project would not contribute to cumulative adverse effects associated with noise.

2.23.4 Resources Evaluated for Cumulative Impact Analysis

Given the level of effect identified in the technical studies, potential cumulative effects related to the following resources and environmental topics may result from implementation of the Build Alternatives:

- Farmlands/Timberlands
- Cultural Resources
- Water Quality and Storm Water Runoff
- Hazardous Waste/Materials
- Natural Communities
- Wetlands and Other Waters
- Animal Species
- Threatened and Endangered Species

Each of these topics is discussed below. Reasonably foreseeable actions adjacent to the study area are listed in Table 2.23.1. For each environmental topic listed below, the RSA is described.

2.23.4.1 Farmlands/Timberlands

The RSA for cumulative impacts to farmlands is Monterey County (County) because the project site is located in an unincorporated area of the County, in the Greater Salinas Area south of the City of Salinas. Monterey County lies along the Pacific Coast and borders Monterey Bay to the north and San Luis Obispo County to the south.

Monterey County is the State of California's third largest agricultural producer. The temperate climate, rich soils, and infrastructure support system make the County ideal for growing cool season vegetables, wine grapes, strawberries, and flowers. The largest commodities produced in the County are leaf lettuce and herbs. Along with vegetable crops, the County also produces fruits and nuts, field crops, nursery crops, and seed crops. The County has dedicated approximately 1,300,000 acres (ac) to agriculture, most of which (approximately 80 percent) is used for grazing. Some of

the most productive farmlands in the County are located in the Greater Salinas Area.[1] From 2008 to 2010, the County of Monterey gained 3,313 ac associated with vineyards and limited vegetable crop expansions in its irrigated farmland footprint while losing 2,837 ac, for a net increase of 476 ac in Important Farmlands. Over time, there has been considerable development pressure to convert valuable agricultural lands to urban uses, particularly around the City of Salinas. The County has implemented many policies and regulations to protect agricultural lands from development.

As described in Section 2.3, Farmlands/Timberlands, implementation of the Build Alternatives would have direct impacts to active agricultural lands. The Preferred Alternative would result in approximately 15.73 ac of permanent impacts to Prime and Unique Farmland in the project area. Alternative 2 would result in approximately 4.74 ac of permanent impacts to Prime and Unique Farmland in the project area. Therefore, the Build Alternatives would result in the conversion of Prime Farmland to non-agricultural use. Please refer to Section 2.3, Farmlands/Timberlands, for more detail regarding the proposed project's effects on farmlands.

The projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects are part of the Fort Ord Reuse Plan to develop the land formerly occupied by Fort Ord. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights sites were previously developed as a military installation. Therefore, the above-mentioned projects would not impact agricultural land. The proposed project is included as part of the Marina-Salinas Multimodal Corridor project. The Marina-Salinas Multimodal Corridor project primarily involves transportation improvements along existing transportation facilities and therefore would not result in adverse impacts to agricultural land, except those that would result from the proposed project. Therefore, the proposed project, in combination with other planned projects, would not cause a cumulative impact to farmlands in the RSA.

The measures identified in Section 2.3, Farmlands/Timberlands, avoid, minimize, and/or mitigate the effects of the Build Alternatives, and no measures beyond those identified in Section 2.3 are required to address cumulative impacts.

[1] Monterey County General Plan (2010).

2.23.4.2 Cultural Resources

The Area of Potential Effects (APE) used in the *Historic Property Survey Report* (HPSR), *Historical Resources Evaluation Report* (HRER), *Archaeological Survey Report* (ASR), and *Finding of No Adverse Effect* (FONAE) is used as the RSA for the purpose of the cultural resources cumulative impacts analysis. The APE for this project is the maximum limit of any physical disturbance that may result from construction or related activities of the proposed project. The APE includes the entirety of archaeological sites CA-MNT-2281H and CA-MNT-2282H. The APE was bounded to include all parcels with built environment elements whose settings may be indirectly affected by the proposed project. The APE includes the bridge crossing over the Salinas River, the approaches to the bridge, portions of the riparian corridor, two farmsteads (i.e., 145 Davis Road and 160 Davis Road), and surrounding agricultural lands.

The APE is located in the Salinas Valley in the Monterey Bay area. The APE extends across the broad floodplain of the Salinas River. The APE is situated in the ancestral territory of the Costanoan, also commonly referred to as Ohlone. As a result of the archaeological pedestrian surveys, two historic-period archeological sites (CA-MNT-2281H and CA-MNT-2282H) and an isolated hand stone were identified in the APE. The portions of historic-period archaeological site CA-MNT-2281H that were previously excavated during 2009 and 2014 excavations would not contribute to the resource's eligibility for listing in the National Register of Historic Places (National Register). However for purposes of this project, the remainder of CA-MNT-2281H is assumed to be eligible for inclusion in the National Register. Also, for purposes of this project, historic-period archeological site CA-MNT-2282H is considered eligible for inclusion in the National Register and the California Register of Historical Resources (California Register). As a result of the architectural field survey, three built environment cultural resources 45 years or older were identified within the APE. Of the three built environment resources, only the Hitchcock-Dolan Farm is considered eligible for the National Register for purposes of Section 106 of the National Historic Preservation Act (NHPA). The Hitchcock-Dolan Farm was previously evaluated in 2007, and after a re-examination of the basis of the decision in 2007, the Hitchcock-Dolan Farm appears individually eligible for inclusion in both the National Register and the California Register.

As stated in Section 2.8, Cultural Resources, with implementation of measures such as an Environmentally Sensitive Area (ESA) Action Plan, it is anticipated there would be no adverse effect to the identified archaeological or historic resources.

There is, however, some potential to encounter unidentified cultural materials during excavation and grading activities associated with construction. Please refer to Section 2.8, Cultural Resources, for more detail regarding the proposed project's effect on cultural resources.

As stated previously, the projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development project would require the demolition of 11 of the 34 buildings considered to be historic resources. It was determined that the East Garrison Development project would result in a substantial adverse impact to historical resources on site; however, these impacts would be localized to the project site and would not contribute or encourage a greater loss of cultural resources within the project vicinity. There are no known cultural resources within the Dunes on Monterey Bay or the Marina Heights project sites; therefore, neither implementation of the Dunes of Monterey Bay project nor the Marina Heights project would result in adverse impacts to cultural resources and would not contribute to a loss of cultural resources within the project vicinity. As stated above, the proposed project is included as part of the Marina-Salinas Multimodal Corridor project. The Marina-Salinas Multimodal Corridor project primarily involves transportation improvements along existing transportation facilities and therefore would not result in adverse impacts to cultural resources, except for those that would result from the proposed project. Therefore, the proposed project, in combination with other planned projects, would not cause a cumulative impact to cultural resources in the RSA.

The measures identified in Section 2.8, Cultural Resources, avoid, minimize, and/or mitigate the adverse effects of the Build Alternatives, and no measures beyond those identified in Section 2.8 are required to address cumulative impacts.

2.23.4.3 Water Quality and Storm Water Runoff

The project study area is located in the Salinas River Watershed in Monterey County. Therefore, the Salinas River Watershed is the RSA for the water quality and storm water runoff cumulative impacts analysis.

The surface waters in the study area are within the Salinas River Watershed. Serious water quality issues in the Salinas River Watershed include heavy agricultural use, over-pumping for irrigation, seawater intrusion, nitrate contamination, urbanization,

flood control activities, hydromodification of creeks, and mining of sand, gravel, mineral, and oil reserves from various locations throughout the Watershed.

The project area is located in the 180/400-Foot Aquifer Subbasin and the Corral de Tierra Area Subbasin within the larger Salinas Valley Groundwater Basin in the Central Coast Region. Groundwater in the Central Coast Region is characterized by calcium sulfate and calcium sodium bicarbonate sulfate water types because of marine sedimentary rock in the watersheds.

On the 2010 California 303(d) List, the following receiving waters within the project area are impaired:

- The Salinas River (lower estuary to near the Gonzales Road crossing) is impaired for chlordane, chloride, chlorpyrifos, dichlorodiphenyldichloroethane (DDD), diazinon, dieldrin, electrical conductivity, enterococcus, Escherichia coli (E. coli), fecal coliform, nitrate, polychlorinated biphenyls (PCBs), pesticides, sodium, Total Dissolved Solids (TDS), toxaphene, turbidity, unknown toxicity, and pH;
- The Salinas River Lagoon (north) is impaired for nutrients and pesticides;
- The Salinas River Refugee Lagoon (south) is impaired for turbidity and pH;
- The Old Salinas River (OSR) is impaired for chlorophyll-a, chlorpyrifos, diazinon, E. coli, fecal coliform, low dissolved oxygen, nitrate, sediment toxicity, turbidity, unknown toxicity, and pH;
- The OSR Estuary is impaired for nutrients and pesticides; and
- The Moss Landing Harbor is impaired for chlorpyrifos, diazinon, low dissolved oxygen, nickel, pathogens, pesticides, sediment toxicity, sedimentation/siltation, and pH.

As stated in Section 2.10, Water Quality and Storm Water Runoff, with implementation of BMPs, pollutants of concern during construction would be reduced and would not reach receiving waters; therefore, there is low potential for adverse water quality impacts during construction of the Build Alternatives. Additionally, because the Build Alternatives would implement effective BMPs that would treat the proposed new impervious surface area, there is a low potential for the Build Alternatives to have a permanent adverse effect on the physical/chemical characteristics of the on-site or downstream aquatic environment. Please refer to Section 2.10, Water Quality and Storm Water Runoff, for more detail regarding the proposed project's effect on water quality.

As stated previously, the projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects would result in changes in drainage patterns and an increase in impervious surface area. However, the projects would require the development of BMPs that would reduce pollution in storm water runoff; therefore the East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects would not have any adverse effects on water quality. As stated above, the Marina-Salinas Multimodal Corridor project primarily involves transportation improvements along existing transportation facilities and therefore would not result in changes to drainage patterns or adverse impacts to water quality. Therefore, the proposed project, in combination with other planned projects would not cause a cumulative impact to water quality or storm water runoff in the RSA.

The measures identified in Section 2.10, Water Quality and Storm Water Runoff, avoid, minimize, and/or mitigate the adverse effects of the Build Alternatives, and no measures beyond those identified in Section 2.10 are required to address cumulative impacts.

2.23.4.4 Hazardous Waste/Materials

The RSA for the purpose of the hazardous waste cumulative impacts analysis is the project area. The project area crosses the Salinas River and extends along Davis Road from Ambrose Drive in the City of Salinas to Reservation Road (a distance of approximately 2.1 miles [mi]) in Monterey County.

Land uses within the project area can be described as primarily active farmlands with low-density residential homes located to the north in the City of Salinas and to the south along Reservation Road. As a result of the hazardous sites database search, six hazardous substance sites were identified; however, none of the six identified sites pose hazardous waste concerns for the study area. As a result of the site observations, prior investigations, and record review, asbestos-containing materials (ACMs), lead-based paint (LBP), metals, aerially deposited lead (ADL), and pesticides are of potential concern for the study area.

As described in Section 2.13, Hazardous Waste/Materials, hazardous materials may be present in the project area. ACMs and LBP may occur in the structures proposed for demolition (e.g., the existing bridge), metals may be present in road striping, and

ADL and pesticides may be present in the soils in the project area. However, with implementation of the measures for handling such hazardous materials/waste, the Build Alternatives are not anticipated to have an adverse impact related to hazardous waste. Please refer to Section 2.13, Hazardous Waste/Materials, for more detail regarding the proposed project's effect related to hazardous waste.

As stated previously, the projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects are located on the Former Fort Ord military base. The entire Former Fort Ord military base was designated a Superfund National Priority List (NPL) Hazardous Waste Site in 1990 primarily due to groundwater contamination. The project site remains designated as a Superfund site. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects would result in the demolition of past military facilities, which may release hazardous materials. However, demolition of such structures would be strictly controlled, and mitigation measures used during demolition would prevent the release of hazardous materials into the atmosphere. The Marina-Salinas Multimodal Corridor project may involve the release of hazardous materials through transportation improvements along existing transportation facilities. However, mitigation measures would be implemented and would prevent the release of hazardous materials into the atmosphere. Therefore, the proposed project, in combination with other planned projects would not cause a cumulative impact associated with hazardous materials/waste in the RSA.

The measures identified in Section 2.13, Hazardous Waste/Materials, avoid, minimize, and/or mitigate the adverse effects of the Build Alternatives, and no measures beyond those identified in Section 2.13 are required to address cumulative impacts.

2.23.4.5 Natural Communities

The RSA for natural communities is consistent with the biological study area (BSA) established for the proposed project. The BSA encompasses the entire project footprint plus adjacent areas that could be affected by construction or operation of the proposed project. The BSA covers an area of approximately 108.19 ac.

The BSA is located in the lower Salinas River Valley within an extensive agricultural landscape. The most biologically diverse area within the BSA is located along the

Salinas River Channel. This area is dominated by relatively natural vegetation types, including black cottonwood forest, red willow thickets, sandbar willow thickets, arroyo willow thickets, and cattail marsh. Outside the Salinas River high-flow channel, most of the BSA is dominated by agricultural fields (used primarily to grow vegetables and strawberries), unvegetated dirt lots, and roads. The naturally occurring communities in the BSA are along the Salinas River riparian corridor and include black cottonwood forest, red willow thickets, arroyo willow thicket, sandbar willow thicket, coast live oak, cattail marsh, and areas of aquatic habitat.

As described in Section 2.17, Natural Communities, measures would be required to avoid, minimize, and/or mitigate temporary and permanent adverse impacts to natural communities in the BSA. Please refer to Section 2.17, Natural Communities, for more detail regarding the proposed project's effect on natural communities.

As stated previously, the projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects would comply with the Fort Ord Habitat Management Plan (HMP). The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects are not located in a riparian area and therefore would not impact any riparian natural communities along the Salinas River. As stated above, the proposed project is included as part of the Marina-Salinas Multimodal Corridor project. The Marina-Salinas Multimodal Corridor project primarily involves transportation improvements along existing transportation facilities; therefore, adverse impacts to natural riparian communities along the Salinas River are not anticipated, except for those that would result from the proposed project. Therefore, the proposed project, in combination with other planned projects, would not cause a cumulative impact to riparian natural communities in the RSA.

The measures identified in Section 2.17, Natural Communities, avoid, minimize, and/or mitigate the adverse effects of the Build Alternatives, and no measures beyond those identified in Section 2.17 are required to address cumulative impacts.

2.23.4.6 Wetlands and Other Waters

The RSA for wetlands and other waters is consistent with the BSA established for the proposed project. The BSA encompasses the entire project footprint plus adjacent

areas that could be affected by construction or operation of the proposed project. The BSA covers an area of approximately 108.19 ac.

The BSA is located on the greater floodplain of the Salinas River, including a short reach of the Salinas River Channel. The low-flow channel of the Salinas River is partially vegetated with aquatic plant species. The larger active channel is vegetated with young sandbar and arroyo willows growing back from flood damage that occurred in 2006. On the floodplain outside the active channel, vegetation consists of mature riparian forest canopy dominated by willows and cottonwoods. The BSA includes the crossing of a constructed, trapezoidal agricultural drainage channel at Hitchcock Road. The bed and banks of the channel are typically unvegetated, but some of the channel edges are vegetated with hydrophytic plant species. In addition, the shoulders of Davis Road contain shallow swales and roadside ditch basins in some locations. Typically, the shoulders of Davis Road do not contain drainage ditches, only occasional low areas between the road and adjacent fields. Small seasonal wetlands are located on site within excavated ditches and contain hydrophytic plant species and evidence of seasonal ponding.

Waters and wetlands potentially subject to United States Army Corps of Engineers (USACE) regulatory jurisdiction include approximately 3.33 ac of Salinas River Channel, 0.72 ac of the Hitchcock Road Channel, and 0.02 ac of seasonal wetlands. The total area of wetlands and nonwetland waters meeting the criteria for USACE jurisdiction is approximately 4.07 ac. Areas potentially subject to California Department of Fish and Wildlife (CDFW) jurisdiction include the Salinas River and associated riparian vegetation (10.18 ac) and the Hitchcock Road Channel (1.21 ac), totaling approximately 11.39 ac within the BSA. Areas potentially subject to Regional Water Quality Control Board (RWQCB) jurisdiction include all the areas meeting the criteria for USACE jurisdiction (i.e., approximately 4.07 ac).

As described in Section 2.18, Wetlands and Other Waters, measures would be required to avoid, minimize, and/or mitigate temporary impacts to wetlands and other waters in the BSA. Impacts to areas within the ordinary high water mark (OHWM) would be compensated by removing the old bridge structures and would result in an increase to jurisdictional areas. Please refer to Section 2.18, Wetlands and Other Waters, for more detail regarding the proposed project’s effect on wetlands and other waters.

As stated previously, the projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects would be consistent with the Fort Ord HMP and would not result in adverse impacts to wetlands or other waters under USACE, CDFW, or RWQCB jurisdiction. As stated above, the proposed project is included as part of the Marina-Salinas Multimodal Corridor project. The Marina-Salinas Multimodal Corridor project primarily involves transportation improvements along existing transportation facilities; therefore, impacts to wetlands or other waters are not anticipated, except for those impacts that would result from the proposed project. Therefore, the proposed project, in combination with other planned projects would not cause a cumulative impact to wetlands and other waters in the RSA.

The measures identified in Section 2.18, Wetlands and Other Waters, avoid, minimize, and/or mitigate the adverse effects of the Build Alternatives, and no measures beyond those identified in Section 2.18 are required to address cumulative impacts.

2.23.4.7 Animal Species

The RSA for animal species is consistent with the BSA established for the proposed project. The BSA encompasses the entire project footprint plus adjacent areas that could be affected by construction or operation of the proposed project. The BSA covers an area of approximately 108.19 ac.

The BSA is located in the lower Salinas River Valley in an extensive agricultural landscape. The most biologically diverse area in the BSA that supports a wide variety of animal species is located along the Salinas River Channel. Outside the Salinas River high-flow channel, most of the BSA is dominated by agricultural fields (used primarily to grow vegetables and strawberries), unvegetated dirt lots, and roads. A list of special-status animal species known from the region around the BSA was compiled and included species occurring in a wide variety of habitat types. Based on the field surveys, it was determined that nine special-status animal species have the potential to occur and/or have potentially suitable habitat present within the BSA. These nine special-status animal species include: pink salmon (*Oncorhynchus gorbuscha*), western pond turtle (*Actinemys marmorata*), California legless lizard (*Anniella pulchra*), two-striped garter snake (*Thamnophis hammondii*), yellow warbler (*Setophaga petechial*), yellow-breasted chat (*Icteria virens*), tricolored blackbird

(*Agelaius tricolor*), western red bat (*Lasiurus blossevillii*), and Monterey big-eared woodrat (*Neotoma macrotis luciana*). Additional wildlife species may have the potential to occur in the BSA but were not discovered during the literature and database reviews or the field surveys.

As described in Section 2.20, Animal Species, measures would be required to avoid, minimize, and/or mitigate temporary impacts to animal species in the BSA. Removal of the old bridge and the roadbed within the Salinas River Channel would result in a beneficial effect to animal species in the area by providing a more natural flow dynamic and increasing habitat, thus improving the habitat for animal species along this section of the Salinas River. Please refer to Section 2.20, Animal Species, for more detail regarding the proposed project's effect on wetlands and other waters.

As stated previously, the projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects would be consistent with the Fort Ord HMP and would not result in adverse impacts to animal species that depend on the habitat of the Salinas River. As stated above, the Marina-Salinas Multimodal Corridor project primarily involves transportation improvements along existing transportation facilities; therefore, impacts to animal species are not anticipated. Subsequently, the proposed project, in combination with other planned projects, would not cause a cumulative impact to animal species in the RSA.

The measures identified in Section 2.20, Animal Species, avoid, minimize, and/or mitigate the adverse effects of the Build Alternatives, and no measures beyond those identified in Section 2.20 are required to address cumulative impacts.

2.23.4.8 Threatened and Endangered Species

The RSA for animal species is consistent with the BSA established for the proposed project. The BSA encompasses the entire project footprint plus adjacent areas that could be affected by construction or operation of the proposed project. The BSA covers an area of approximately 108.19 ac.

As noted above, the most biologically diverse area within the BSA that supports a wide variety of plant and wildlife species is located along the Salinas River Channel. Outside the Salinas River high-flow channel, most of the BSA is dominated by agricultural fields, unvegetated dirt lots, and roads. A list of special-status species known from the region around the BSA was compiled and included species occurring

in a wide variety of habitat types. In northern Monterey County, no special-status plant species occur in riparian areas, which is the primary native habitat within the BSA. Based on the field surveys conducted in 2006, 2008, 2009, and 2013, it was determined that no suitable habitat for these species is present within the BSA. None of the federally and/or State-listed plant species evaluated for the project are expected to occur in the BSA due to the absence of suitable habitat.

After a thorough literature and database review, it was determined that 16 of the special-status animal species identified to have the potential to occur in the BSA are federally and/or State-listed as endangered, threatened, or candidate species. Based on the field surveys conducted in 2006, 2008, 2009, and 2013, it was determined that no suitable habitat is present within the BSA for 13 of the 16 species. The special-status animal species with potential to occur in the BSA include South/Central California Coast steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*), California tiger salamander (*Ambystoma californiense*), and California red-legged frog (*Rana draytonii*).

As described in Section 2.21, Threatened and Endangered Species, measures would be required to avoid, minimize, and/or mitigate temporary impacts to federally and/or State-listed as endangered, threatened, or candidate animal species in the BSA. Removal of the old bridge and the roadbed within the Salinas River Channel would result in a beneficial effect to threatened and/or endangered species in the area by providing a more natural flow dynamic and increasing passage habitat, thus improving the habitat for threatened and/or endangered species along this section of the Salinas River. Please refer to Section 2.21, Threatened and Endangered Species, for more detail regarding the proposed project's effect on wetlands and other waters.

As stated previously, the projects considered as part of the cumulative analysis include the East Garrison Development, the Dunes on Monterey Bay, the Marina Heights, and the Marina-Salinas Multimodal Corridor projects. The East Garrison Development, the Dunes on Monterey Bay, and the Marina Heights projects would be consistent with the Fort Ord HMP and would not result in adverse impacts to threatened and/or endangered species that depend on the habitat of the Salinas River. As stated above, the Marina-Salinas Multimodal Corridor project primarily involves transportation improvements along existing transportation facilities; therefore, impacts to threatened and/or endangered species are not anticipated. Therefore, the proposed project, in combination with other planned projects, would not cause a cumulative impact to animal species in the RSA.

The measures identified in Section 2.21, Threatened and Endangered Species, avoid, minimize, and/or mitigate the adverse effects of the Build Alternatives and no measures beyond those identified in Section 2.21 are required to address cumulative impacts.

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Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

The project is subject to federal as well as County of Monterey (County) and State environmental review requirements because the Monterey County Public Works Department proposes that the use of federal funds from the Federal Highway Administration (FHWA) and/or the project requires an approval from FHWA. Project documentation, therefore, has been prepared in compliance with both CEQA and the National Environmental Policy Act (NEPA). The Monterey County Public Works Department is the project proponent and the lead agency under CEQA. FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation (Caltrans) under its assumption of responsibility pursuant to 23 United States Code (USC) 327.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS), or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the lead agency to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also

require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 Effects of the Proposed Project

The CEQA determinations provided below are based on the project's preferred alternative. The significance of the potential impacts under CEQA were assessed based on the CEQA Checklist provided in Appendix A and the analyses of project impacts as discussed in detail in Chapter 2, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. The impacts of the Preferred Alternative by environmental issue are summarized in the following sections based on the level of significance of the project impacts under CEQA. The impacts under Alternative 2 would be equal to or less than those identified under the Preferred Alternative unless otherwise noted. For a comparative discussion of the impacts of the No Build Alternative, see Chapter 2.

3.2.1 No Effects

The environmental issues that were considered but did not result in any impacts are identified and discussed at the beginning of Chapter 2. In addition, the following environmental issues would have no impacts under CEQA:

- **Mineral Resources:** The proposed project would not impact a known mineral resource or important mineral resource recovery site. (For more information, see Section 2.11, Geology/Soils/Seismic/Topography.)
- **Population and Housing:** The proposed project would not induce growth either directly or indirectly, and would not result in the displacement of housing or people. (For more information, see Section 2.2, Growth, and Section 2.4, Community Impacts.)

3.2.2 Less than Significant Effects of the Proposed Project

The following project impacts have been determined to be less than significant:

- **Aesthetics:** The proposed project would not affect any scenic vistas, would not substantially damage scenic vistas, and is not located within a State Scenic Highway. The proposed project would not substantially diminish the existing visual character of the project site or surrounding area, and would not create a substantial source of glare. (For more information, see Section 2.7, Visual/Aesthetics.)

- **Air Quality:** During construction, construction equipment would temporarily contribute coarse particulate matter and ozone precursors to the air. Operation of the proposed project would not violate any air quality standards, or result in cumulatively considerable increases in criteria pollutants. (For more information, see Section 2.14, Air Quality.)
- **Land Use and Planning:** The proposed project would not physically divide an established community, does not conflict with established land use plans, and does not conflict with any established Habitat Conservation Plan (HCP). (For more information, see Section 2.1, Land Use.)
- **Hazards and Hazardous Materials:** No hazardous material sites were identified in the project area. The proposed project would not involve the routine transport, use, or disposal of hazardous materials, and does not involve any reasonably foreseeable accident conditions that would release hazardous materials. The proposed project is not located within 2 miles (mi) of a public airport or in the vicinity of a private airstrip. According to the CAL FIRE Very High Fire Hazard Severity Zones for Monterey County, the southern portion of the project area along Reservation Road is currently located in a very high fire hazard severity zone (VHFHSZ). However, the proposed project would not change any land uses currently in the VHFHSZ. (For more information, see Section 2.13, Hazardous Waste/Materials.)
- **Hydrology and Water Quality:** The proposed project would replace the existing bridge over the Salinas River with a new bridge that would accommodate 100-year flows. The proposed project would not substantially alter existing drainage patterns and would not violate any water quality standards or waste discharge requirements. (For more information, see Section 2.9, Hydrology and Floodplain, and Section 2.10, Water Quality and Storm Water Runoff.)
- **Public Services:** The proposed project would not require the need for additional public services facilities and would not affect service ratios. The closure of Davis Road during construction would not result in deficiencies in response times. During operation of the Build Alternatives, public service providers would receive the benefit of using the Davis Road Bridge during high-flow events of the Salinas River. (For more information, see Section 2.5, Utilities/Emergency Services, and Section 2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.)
- **Transportation/Traffic:** Temporary road closures and traffic delays during construction activities would not reduce emergency access in the area. The proposed project would not increase traffic hazards due to a design feature or

incompatible uses. The Preferred Alternative is consistent with the Regional Transportation Plan (RTP) because it includes the widening of Davis Road to meet future traffic demands and improves the level of service (LOS) at intersections along Davis Road. Alternative 2 is not consistent with the RTP and would not improve the LOS at intersections along Davis Road. (For more information, see Section 2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities.)

- **Utilities and Service Systems:** The project would not require the expansion of any wastewater treatment facilities or result in increased water demand. Waste materials during construction and operation would be disposed of at the Sun Street Transfer Station in the City of Salinas. The quantity of waste material generated would represent a small percentage of the total amount of waste generated in the region and disposed of at the landfills. (For more information, see Section 2.5, Utilities/Emergency Services.)

3.2.3 Significant Environmental Effects of the Proposed Project

The following project impacts have been determined to be potentially significant without implementation of standard conditions and/or avoidance, minimization, or mitigation measures:

- **Agricultural and Forest Resources:** The proposed project would require the conversion of farmland to nonagricultural use; however, once obtained, the roadway easements would no longer be zoned for agricultural use and therefore would not conflict with zoning. In addition, a portion of the proposed project is within recorded agricultural easements that would require the agricultural easements to be revised and re-recorded upon project approval. The proposed project would have no impact on forest land or timberland. (For more information, see Section 2.3, Farmlands/Timberlands.)
- **Biological Resources:** The proposed project would have a temporary impact on riparian habitat within the Salinas River Channel during construction activities. However, once the new bridge has been constructed, the proposed project would provide a more natural flow regime and more area for the establishment of new trees. Waters subject to United States Army Corps of Engineer (USACE) jurisdiction would also be impacted. River channelization during construction could have an adverse effect on the federally threatened steelhead (South/Central California Coast Distinct Population Segment [DPS]), which migrate through the project area during high flows in the Salinas River to spawn upstream. The section of the Salinas River that is located in the project area is part of the

designated Critical Habitat for South/Central California Coast steelhead DPS. The proposed project does not conflict with any adopted HCP or Natural Community Conservation Plan. (For more information, refer to Sections 2.17 through 2.22.)

- **Cultural Resources:** Both historic and prehistoric archaeological resources are located in or adjacent to the project area. These resources could be affected by the road widening component of the Preferred Alternative or by the bridge replacement and associated construction under both Build Alternatives. (For more information, see Section 2.8, Cultural Resources.)
- **Geology:** The proposed project is located in a seismically active region in California and on soils that have the potential for seismically related ground failure, including liquefaction, lateral spreading, and settlement. (For more information, see Section 2.11, Geology/Soils/Seismic/Topography.)

3.2.4 Unavoidable Significant Environmental Effects

Measures have been proposed to mitigate potentially significant environmental impacts of the proposed project; however, the following effects would remain significant and unavoidable after mitigation:

3.2.4.1 Noise Under CEQA

When determining whether a noise impact is significant under CEQA, a comparison is made between the existing baseline noise level and the Build Alternative. The CEQA noise analysis is completely independent of the NEPA 23 Code of Federal Regulations (CFR) 772 analysis discussed in Section 2.15, Noise, which is centered largely on Noise Abatement Criteria (NAC). For CEQA, the assessment entails looking at the setting of the noise impact and then determining how large or perceptible any noise increase would be in the given area compared to established noise level thresholds. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

If a project is determined to have a significant noise impact under CEQA, then mitigation measures must be incorporated into the project unless such measures are not feasible.

A project is considered to have a significant noise impact when it causes an adopted noise standard to be exceeded at a sensitive receptor and when it substantially increases noise exposure. The County addresses noise in the Safety Element of its General Plan and in the noise ordinance in the County Code.

Safety Element of the General Plan

The County's land use compatibility standards for community noise environments are shown in Table 3.1.1. Community environments with ambient noise levels of up to 60 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL) are considered "normally acceptable" for low-density, single-family residences, duplexes, and mobile homes. Community environments with ambient noise levels of up to 65 dBA CNEL are considered "normally acceptable" for multifamily residences. Community environments with ambient noise levels of up to 75 dBA CNEL are considered "normally acceptable" for industrial, manufacturing, utilities, and agricultural land uses. Industrial, manufacturing, utilities, and agricultural land uses are not considered noise-sensitive land uses and are not evaluated further. Community environments with ambient noise levels of up to 70 dBA CNEL are considered "normally acceptable" for playgrounds and neighborhood parks. For the purpose of this analysis, single-family residences were evaluated with a noise standard of 60 dBA CNEL, multifamily residences were evaluated with a noise standard of 65 dBA CNEL, and recreation areas were evaluated with a noise standard of 70 dBA CNEL. Recreational areas would be similar to playgrounds and neighborhood parks and would be subject to the 70 dBA CNEL noise standard.

In addition to the exterior noise discussed above, a project is considered to have a significant noise impact when it causes the State's interior noise standard of 45 dBA CNEL to be exceeded. Since interior noise standards for residential land uses were not specified in the County's Noise Element, the State's interior noise standard of 45 dBA CNEL was used to evaluate potential interior noise impacts.

County Code

The County of Monterey's County Code Section 10.60.030 contains construction-related standards for noise. Code 10.60.030 specifies that no person in unincorporated Monterey County shall operate a machine, mechanism, device, or contrivance that produces a noise level exceeding 85 dBA within 50 feet (ft) of the noise source.

Noise modeling was completed as part of the *Noise Study Report* (2014) for the proposed project to determine expected noise levels at receptors in the vicinity of the proposed project. The modeling represents generated noise levels in "equivalent continuous sound (L_{eq})," while the noise standards for the County are expressed in CNEL. The L_{eq} level would be similar to CNEL levels; therefore, for purposes of this analysis, the L_{eq} level is considered to be the CNEL level for determination of noise impacts.

Table 3.1.1 County of Monterey Land Use Compatibility Standards for Community Noise Environments

Land Use Category	Community Noise Exposure in Decibels (dB CNEL) Day/Night Average Noise Level in Decibels (dB L_{dn})													
		55		60		65		70		75		80		
Residential – Low-Density Single-Family, Duplex, Mobile Homes														
Residential – Multifamily														
Transient Lodging – Motels, Hotels														
Schools, Libraries, Churches, Hospitals, Nursing Homes														
Auditoriums, Concert Halls, Amphitheaters														
Sports Arena, Outdoor Spectator Sports														
Playgrounds, Neighborhood Parks														
Golf Courses, Riding Stables, Water Recreation, Cemeteries														
Office Buildings, Business Commercial and Professional														
Industrial, Manufacturing, Utilities, Agriculture														

	NORMALLY ACCEPTABLE Specified land use is satisfactory based on the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.		NORMALLY UNACCEPTABLE New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
	CONDITIONALLY ACCEPTABLE New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.		CLEARLY UNACCEPTABLE New construction or development should generally not be undertaken.

Source: County of Monterey (2010). *Monterey County General Plan*, Table S-2.
CNEL = Community Noise Equivalent Level

3.2.4.2 Construction Impacts

Noise levels during construction of the Build Alternatives may impact noise-sensitive receptors. Noise-sensitive receptors for the proposed project include single- and multifamily residences along Davis Road and Reservation Road, as well as a recreational land use located south of Reservation Road. Typical construction noise levels may reach 86 dBA maximum instantaneous noise level (L_{max}) at a distance of

50 ft from the noise sources. Measures N-1 and N-2, which are described in detail in Section 2.15, require compliance with the Caltrans Standard Specifications and County Municipal Codes, as applicable. Implementation of Measures N-1 and N-2 would reduce construction noise impacts under the Build Alternatives to a less than significant level.

3.2.4.3 Operational Impacts

The Land Use Compatibility Standards for Community Noise Environments in the County's Safety Element of the General Plan contain noise levels that are considered normally acceptable. For the purpose of this analysis, the normally acceptable noise levels from the County's Safety Element were used to determine noise impacts associated with the Build Alternatives. The exterior noise level thresholds are based on land use categories (Table 3.1.1). The County has established a not-to-exceed exterior CNEL for each land use category. The interior noise level is a single not-to-exceed State standard of 45 dBA CNEL. Tables 2.15.3 and 2.15.4 in Section 2.15 outline the existing noise levels, the 2040 without project noise levels, and the 2040 with project noise levels for the Build Alternatives. Of the 24 receptor locations impacted under the Preferred Alternative, 8 are agricultural lands (Receptors R-14 through R-19, R-23, and R-24) and are not analyzed further. Of the 17 receptors impacted by Alternative 2 (Receptors R-1 through R-17), 4 are agricultural lands (Receptors R-14 through R-17) and are not analyzed further.

Exterior Noise

Receptors R-1 through R-11 represent multifamily residences located south of Reservation Road and are approximately 80 ft in elevation above Reservation Road. The County's exterior noise threshold for multifamily residences is 65 dBA CNEL. These receptors would experience noise levels up to 57 dBA CNEL during operation of the Build Alternatives in 2040. Therefore, none of the 2040 noise levels would exceed the established threshold for the Build Alternatives for Receptors R-1 through R-11.

Receptor R-12 represents a recreation use located south of Reservation Road. The County's exterior noise threshold for recreational uses is 70 dBA CNEL. This receptor would experience noise levels up to 53 dBA CNEL during operation of the Build Alternatives in 2040. The 2040 noise level would not exceed the established threshold for the Build Alternatives at Receptor R-12.

Receptors R-13 and R-20 represent single-family residences located along Davis Road and Reservation Road. The County's exterior noise threshold for multifamily residences is 60 dBA CNEL. These receptors would experience noise levels up to 56 dBA CNEL in 2040. None of the 2040 noise levels would exceed the established threshold for the Build Alternatives.

When comparing the 2040 noise levels to existing noise levels under the Preferred Alternative, Receptors R-1 through R-13 and R-20 would experience an increase in noise levels of 7 to 9 dBA. When comparing the 2040 noise levels to existing noise levels under Alternative 2, Receptors R-1 through R-13 (Receptor R-20 is not affected by Alternative 2) would experience an increase in noise levels of 3 to 5 dBA. Noise levels for Receptors R-1 through R-13 and R-20 would not exceed the County's noise standard for either Build Alternative. Therefore, the receptors would not experience a substantial permanent ambient increase in noise over existing noise levels.

Receptor R-21 represents a single-family residence located along Davis Road. As shown in Table 2.15.3 in Section 2.15, the 2040 noise levels at Receptor R-21 would be 72 dBA CNEL in 2040. The existing noise level is currently 65 dBA CNEL. The County's existing exterior noise standard is 60 dBA CNEL. Therefore, when noise levels with the proposed project in 2040 are compared to existing noise levels, the project-related increase in exterior noise levels would be 7 dBA and the future with project noise levels would exceed the County's exterior noise standard of 60 dBA CNEL. Therefore, since the exterior noise level thresholds of the County would be exceeded, Receptor R-21 would experience a substantial permanent increase in noise compared to existing noise levels, resulting in a significant impact under CEQA. Exterior noise levels at Receptor R-21 must be reduced to or below the exterior noise standard of 60 dBA CNEL to avoid impacts under CEQA. As discussed previously in Section 2.15, property access to Receptor R-21(Hitchcock-Dolan Farm residence) is from Davis Road, and it is not feasible to abate traffic noise with noise barriers. No other noise abatement measures are feasible to reduce operational traffic-related noise; therefore, exterior noise levels related to traffic noise would remain significant and unavoidable at Receptor R-21.

Receptor R-22 represents a single-family residence located along Davis Road. As show in Table 2.15.3 in Section 2.15, the 2040 noise levels at Receptor R-22 would be 72 dBA CNEL in 2040. The existing noise level is 61 dBA CNEL. The County's existing exterior noise standard is 60 dBA CNEL. Therefore, when noise levels in

2040 with the proposed project are compared to existing noise levels, the project-related increase in exterior noise levels would be 11 dBA and the future with project noise levels would exceed the County's exterior noise standard of 60 dBA CNEL. Therefore, since the exterior noise level thresholds of the County would be exceeded, Receptor R-22 would experience a substantial permanent increase in noise as compared to existing noise levels, resulting in a significant impact under CEQA. Exterior noise levels at Receptor R-22 must be reduced to or below the exterior noise standard of 60 dBA CNEL to avoid impacts under CEQA. Table 2.15.3 in Section 2.15 shows that a minimum noise barrier height of 12 ft would be required to reduce noise levels to the County's exterior noise standard of 60 dBA CNEL at Receptor R-22. (This noise barrier is represented by NB No. 1, and the location is shown on Figure 2.15-2 in Section 2.15.) As specified in Measure NOI-1, a noise barrier with a minimum height of 12 ft is required to reduce noise levels to 60 dBA CNEL or below at Receptor R-22. While a noise barrier at Receptor R-22 is not considered reasonable under NEPA, it is required under CEQA to reduce project-related exterior noise impacts. Therefore, with implementation of Measure NOI-1, impacts at Receptor R-22 would be less than significant.

Interior Noise

Based on the typical sound level reductions of buildings identified in the Protective Noise Levels, Condensed Version of EPA Levels Document (November 1978, EPA-550/9-79-100), standard building construction in Southern California would provide 24 dBA (the national average is 25 dBA) or more in noise reduction from exterior to interior with windows and doors closed. With windows and doors open, the exterior-to-interior noise reduction drops to 12 dBA (the national average is 15 dBA) or more.

Given that the State interior noise standard is 45 dBA CNEL, any receptor above 69 dBA CNEL would exceed the interior noise standard with windows closed, and any receptor above 57 dBA CNEL would exceed the interior noise standard with windows open.

Under both Build Alternatives, the 2040 noise levels at receptors R-1 through R-13 and R-20 (R-20 is only affected under the Preferred Alternative) would be below levels that would exceed the State interior noise standards. Therefore, no interior noise impacts would occur at receptors R-1 through R-13 and R-20.

Based on the 2040 noise levels for the Preferred Alternative, Receptor R-21 would be exposed to noise levels up to 72 dBA CNEL, which would exceed the interior noise

standard of 45 dBA CNEL (72 dBA CNEL - 24 dBA CNEL = 48 dBA CNEL). The 2040 noise levels at Receptor R-21 would also exceed the interior standard of 45 dBA CNEL with windows and doors open (72 dBA CNEL - 12 dBA CNEL = 60 dBA CNEL). Therefore, mitigation in the form of mechanical ventilation, such as air conditioning, and building facade upgrades are required to reduce the interior noise level to the noise standard of 45 dBA CNEL or below. Due to the historic status of the residence at Receptor R-21—which appears eligible for listing in national, State, and local historical registers—implementation of these measures has the potential to adversely affect the historic integrity of the residence through inappropriate replacement or modification of character-defining architectural elements. Although implementation of these measures would reduce interior noise impacts to less than significant levels, replacement or modification of the residence's historical materials could potentially result in a significant impact to a historical resource under CEQA. The available mitigation (i.e., mechanical ventilation and facade upgrades) would not be a feasible option due to environmental considerations (creation of another potentially significant impact through implementation of mitigation); therefore, the proposed mitigation would not be implemented. Interior noise impacts to Receptor R-21 would therefore remain significant and unavoidable under the Preferred Alternative.

Based on the 2040 noise levels for the Preferred Alternative, Receptor R-22 would be exposed to noise levels up to 72 dBA CNEL. With the exterior to interior noise attenuation from buildings as discussed above and with implementation of Measure NOI-1, the interior noise levels for Receptor R-22 would be 36 dBA CNEL (60 dBA CNEL - 24 dBA CNEL = 36 dBA CNEL) with windows and doors closed and 48 dBA CNEL (60 dBA CNEL - 12 dBA CNEL = 48 dBA CNEL) with windows and doors open. Therefore, with windows and doors open, Receptor R-22 would be exposed to noise levels (48 dBA CNEL) that exceed the State interior noise standard of 45 dBA CNEL. Measure NOI-2 requires the installation of an air conditioning system to ensure that windows and doors can be closed for a prolonged period of time to reduce exposure to interior noise levels that would exceed interior noise thresholds. Therefore, with implementation of Measures NOI-1 and NOI-2, noise impacts at Receptor R-22 would be less than significant.

3.2.5 Mandatory Finding of Significance

After implementation of the Preferred Alternative and all related mitigation measures, it has been determined that the Preferred Alternative would result in a significant

unavoidable impact to Receptor R-21 because exterior and interior noise would exceed allowable thresholds.

3.3 Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane (CF_4), hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the United States, the main source of GHG 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 GHG-emitting sources. The dominant GHG emitted is CO_2, which is primarily generated 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 GHG 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 primary strategies for reducing GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and

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

(4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.[1]

3.3.1 Regulatory Setting

3.3.1.1 State

With the 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 GHG emissions and climate change:

- **Assembly Bill (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 GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009 model year.
- **Executive Order (EO) S-3-05 (June 1, 2005):** The goal of EO S-3-05 is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of AB 32.
- **AB 32, Núñez and Pavley, The Global Warming Solutions Act of 2006:** AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."
- **EO S-20-06 (October 18, 2006):** This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.
- **EO S-01-07 (January 18, 2007):** This order set forth the low carbon fuel standard for California. Under EO S-01-07, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020.
- **Senate Bill (SB) 97, Chapter 185, 2007, Greenhouse Gas Emissions:** This bill required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.
- **SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection:** This bill requires the ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each

[1] http://www.fhwa.dot.gov/environment/climate_change/mitigation/.

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 their region.

- **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.

3.3.1.2 Federal

Although climate change and GHG reduction are a concern at the federal level, currently no regulations or legislation have been enacted that specifically address GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (EPA) nor the FHWA has issued explicit guidance or methods to conduct project-level GHG analysis.[1] FHWA 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 FHWA 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 being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and EO 13514 – *Federal Leadership in Environmental, Energy and Economic Performance*.

[1] To date, no national standards have been established regarding mobile source GHGs, and the EPA has not established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

EO 13514 (October 5, 2009): This order is focused on reducing GHGs 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 EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Clean Air Act and the EPA's assessment of the scientific evidence that forms the basis for EPA regulatory actions. The EPA, in conjunction with the National Highway Traffic Safety Administration (NHTSA), issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.[1]

The EPA and NHTSA are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG 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 GHG emissions 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 EPA and NHTSA issued a joint Final Rulemaking to extend the national program for fuel economy standards to model years 2017–2025 for passenger vehicles. Over the lifetime of the model year 2017–2025 standards, this program is projected to save approximately 4 billion barrels of oil and 2 billion metric tons of GHG emissions.

[1] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq.

The complementary EPA and NHTSA 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 GHG emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish GHG emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO_2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014–2018 heavy-duty vehicles.

3.3.2 Project Analysis

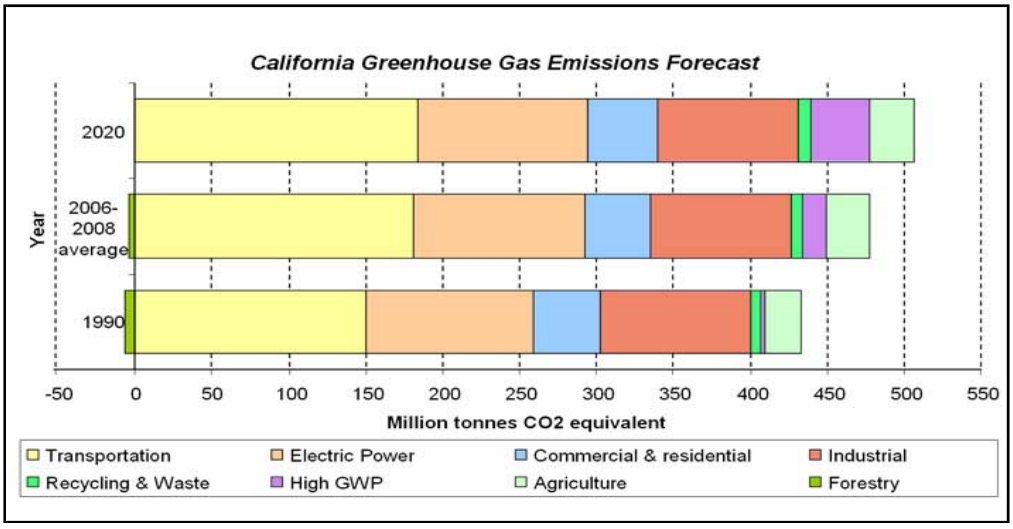
An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.[1] In assessing cumulative impacts, it must be determined whether 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. Gathering sufficient information on a global scale of all past, current, and future projects in order 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 GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, the ARB released the GHG inventory for California (forecast last updated October 28, 2010). 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 GHG inventory for 2006, 2007, and 2008.

[1] This approach is supported by the Association of Environmental Professionals (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 US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Caltrans and its parent agency, the California State Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and that 40 percent of all human-made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[1]

One of the main strategies in Caltrans' Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. As depicted on Figure 3-1, the amount of CO_2 emissions produced by the Transportation category is anticipated to increase by 2020. The highest levels of CO_2 from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour [mph]) and speeds over 55 mph (the most severe emissions occur from 0–25 mph) (see Figure 3-2). To the extent that a project relieves congestion by enhancing operations and improving travel times in highly congested travel corridors, GHG emissions (particularly CO_2) may be reduced.



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

Figure 3-1 California Greenhouse Gas Forecast

[1] 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.

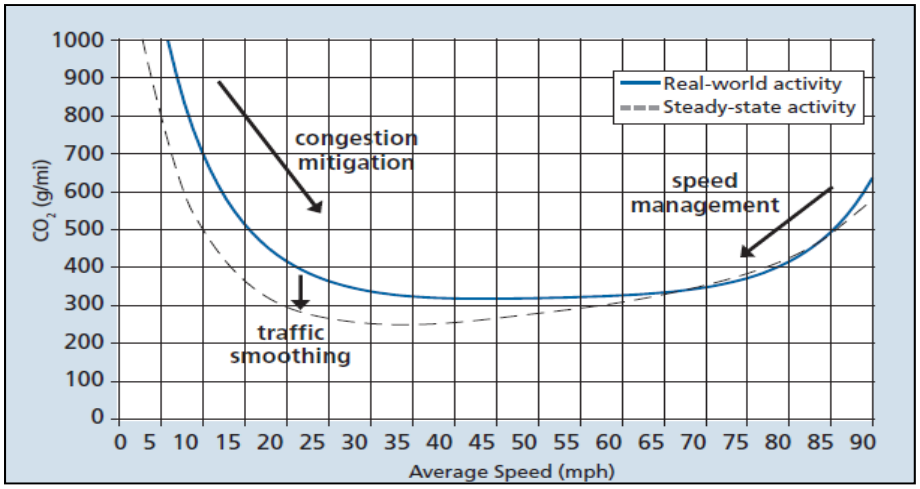


Figure 3-2 Possible Effect of Traffic Operation Strategies in Reducing On-Road CO_2 Emission[1]

3.3.3 Project Operational Emissions

The purpose of the proposed project is to provide an all-weather crossing that can accommodate the seasonal high flows of the Salinas River, ensure the road and bridge meet current structural and geometric design standards, accommodate projected travel demand for the 2040 planning horizon at an acceptable LOS, and improve traffic safety. The proposed project is not a development project that would directly generate new vehicular traffic trips.

The 2014 Monterey County RTP identifies two major commute routes between the City of Salinas and the Monterey Peninsula. The two routes include State Route 68 (SR-68) between Salinas and Monterey, and the Blanco Road-Reservation Road-Imjin Parkway Route. Davis Road is located along the latter between Blanco Road and Reservation Road. The RTP identifies the corridor as having numerous constraints in serving commute flows between the communities because both routes are conventional two-lane roadways that are congested during peak travel times. The Preferred Alternative would add an additional lane in each direction along Davis Road and would help to improve traffic flow along the Blanco Road-Reservation Road-Imjin Parkway Route. Alternative 2 would not add any additional lanes along

[1] Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin (TR News 268 May-June 2010), http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf.

Davis Road and would not improve traffic flow along the Blanco Road-Reservation Road-Imjin Parkway Route.

In addition to the RTP, the 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) includes a discussion of transportation investments to both optimize the performance of the existing system and strategically expand the system. The widening of Davis Road to four lanes from Blanco Road to Reservation Road (Preferred Alternative) is listed as part of the Marina-Salinas Corridor that is included in the regionally significant project list.

The 2035 MTP/SCS and RTP's for Monterey, San Benito, and Santa Cruz EIR includes a discussion on GHG missions and climate change. Projected per capita GHG emissions for the years 2020 and 2035 under the 2035 MTP/SCS were compared to the 2010 baseline and the projected future No Project Scenarios. The CARB's EMFAC 2011 generates an output of carbon dioxide emission, which were used as an overall indicator of GHG emissions. Implementation of the MTP/SCS and RTP's for Monterey, San Benito, and Santa Cruz Counties, would not result in a significant increase in carbon dioxide emissions when compared to both the 2010 baseline. Implementation of the MTP/SCS and RTP's would result in lower carbon dioxide emissions than the 2020 and 2035 No Project conditions

Please refer to Chapter 1, Section 1.4, Alternatives, for a discussion of alternatives analyzed for the proposed project. Please refer to Section 1.6, Alternatives Considered but Eliminated from Further Discussion, for a discussion of the roadway and bridge configurations that were considered but eliminated during the early planning stages of the proposed project. A transit-only alternative was not assessed as part of the proposed project because the proposed project is located in a rural agricultural area with low transit (bus) ridership. However, the Preferred Alternative and Alternative 2 include an 8 ft shoulder with Class II bicycle lanes along both sides of Davis Road, and the Preferred Alternative – Design Variation includes a two-way cycle track along the east side of Davis Road. The inclusion of either the Class II bicycle lanes or the two-way cycle track along Davis Road would provide a safe bicycle network through this portion of the County.

Daily traffic volume is expected to increase through the planning horizon year of 2040; the projected amount of traffic is expected to be the same for both Build Alternatives. Because the Preferred Alternative includes widening Davis Road from two to four lanes, the Preferred Alternative would help to relieve congestion and

improve traffic operations along Davis Road thereby reducing the amount of time vehicles spend traveling at speeds between 0 to 25 mph. Under Alternative 2 and under the No Build/No Project condition, Davis Road would remain two lanes and would not help to relieve congestion; therefore the amount of time vehicles spend travelling at speeds between 0 to 25 mph through the planning horizon year of 2040 would increase. Therefore, the Preferred Alternative would reduce CO2 emissions as compared to Alternative 2 and the No Build/No Project conditions through the 2040 planning horizon year.

3.3.4 Construction Emissions

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operation. Construction GHG 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 GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Idling times would be restricted to 10 minutes in each direction for passenger cars during lane closures and 5 minutes for construction vehicles. Restricting idling times reduces harmful emissions from passenger cars and diesel-powered construction vehicles.

3.3.5 CEQA Conclusion

As discussed above, the Preferred Alternative is expected to decrease CO2 emissions when compared to the No Build Alternative and Alternative 2. Therefore, in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is speculative to make a determination regarding the direct impact of the proposed project and its contribution on a cumulative scale to climate change. However, the County is firmly committed to implementing measures to help reduce energy consumption and GHG emissions throughout the State. These measures are outlined in the following section.

3.3.6 Greenhouse Gas Reduction Strategies

The County of Monterey Resource Management Agency Planning Department is currently developing a Community Climate Action Plan & Greenhouse Gas reduction

Plan. Since the County is still developing a Community Climate Action Plan, Caltrans GHG reduction strategies are being applied to the proposed project.

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOS S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. 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 Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in GHG 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 3-3: The Mobility Pyramid.

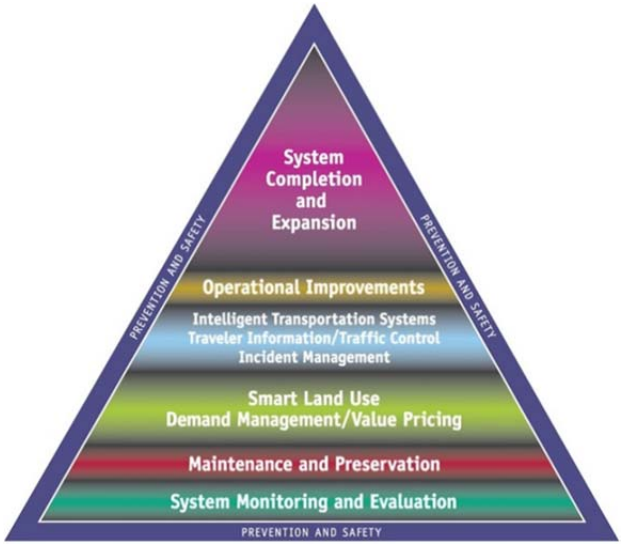


Figure 3-3 Mobility Pyramid

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 also works closely with local jurisdictions on planning activities but does not have local land use planning authority.

Caltrans also 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 on-going research efforts at universities, by

supporting legislative efforts to increase fuel economy, and by 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 ARB.

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

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas (GHG) emissions. The CTP 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 CTP 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 CTP 2040 will identify the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the State's transportation needs.

Table 3.3.1 summarizes Caltrans and statewide efforts that Caltrans is implementing to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)[1] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

[1] http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml.

Table 3.3.1 Climate Change/CO_2 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	CalEPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Source: Caltrans Standard Environmental Reference

To the extent that is applicable or feasible for the proposed project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the proposed project:

1. Landscaping reduces surface warming, and through photosynthesis, decreases CO2. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the

project. The landscape planting would help offset any potential CO2 emissions increase.

2. The project would recommend the use of energy-efficient lighting, such as light emitting diode (LED) traffic signals. LED bulbs—or balls, in the stoplight vernacular—cost $60 to $70 apiece but last 5 to 6 years, compared to the 1-year average lifespan of the incandescent bulbs previously used. The LED balls themselves consume 10 percent of the electricity of traditional lights, which would also help reduce the project's CO2 emissions.
3. According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with Title 13, California Code of Regulations (CCR) Section 2449(d)(3) that was adopted by the ARB on June 15, 2008. This regulation restricts idling of construction vehicles to no longer than 5 consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles.

3.3.7 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.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the 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, 2011,[1] 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

[1] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation.

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 EO S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO 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),[1] 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 EO 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.

[1] 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 Report[1] 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.
- The range of uncertainty in selected sea level rise projections.
- A 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.
- A 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 Academies 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 the EO S-13-08, and/or are programmed for construction funding 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

[1] *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.

level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans 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. 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 EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

3.4 Mitigation Measures for Significant Impacts under CEQA

The proposed project (Preferred Alternative) would result in potentially significant impacts for agriculture resources, biological resources, cultural resources, geology, and noise. Implementation of the mitigation measures noted in chapter 2 and listed below would reduce potentially significant impacts to less than significant levels.

3.4.1 Agriculture Resources

AG-1 **Agricultural Land Preservation:** Prior to the start of construction, the Monterey County Department of Public Works shall ensure that all permanent impacts to farmlands be mitigated in the following ways:

- The project plans and specifications shall state that the Contractor shall stockpile all agricultural topsoil that is removed as part of the bridge replacement and road widening and export it to a suitable location identified by the Ag Land Trust to be used to create new farmland; and
- Agricultural land currently under a conservation easement and being impacted by the project shall be preserved at a 1:1 ratio with

agricultural land of equivalent farming capability. This shall be accomplished by payment of a fee to the Ag Land Trust, which would be used solely for the purpose of acquiring agricultural land and/or agricultural conservation easements to protect equivalent farmland. The protected farmland shall be located in the Greater Salinas Area. Documentation of the fee payment shall be submitted to the Resource Management Agency Planning Department.

AG-2 **Agricultural Easement Land:** Prior to construction, the Monterey County Department of Public Works shall obtain written permission from the Grantees of Agricultural Conservation Easement Document Nos. 2001032384, 2001013353, and 2001032383 to acquire land for the purpose of widening Davis Road. The above mentioned Agricultural Conservation Easements shall be revised and re-recorded to reflect the new geographic boundaries of the Agricultural Conservation Easement areas after implementation of the proposed project.

3.4.2 Biological Resource

NC-2 **Tree Regeneration:** Natural regeneration shall be augmented by planting cuttings from nursery-grown trees of local provenance. Native riparian trees (e.g., black cottonwoods, red willows, and box elders) shall be planted at a 2:1 ratio (i.e., two trees planted for each tree removed) in the high-flow channel outside the edges of the new bridge deck where they would be exposed to light levels suitable for growth. Planted trees would be protected from beavers by fencing, and a revegetation plan would be developed to monitor survival to Monterey County and/or California Department of Fish and Wildlife (CDFW) specifications.

WET-1 **Native River Soil Material:** If feasible, the Construction Contractor shall ensure that after the completion of pile driving activities, the native river soil material that has been cleaned out of the piles driven to depth shall be reused on site. If the soil composition is not suitable for reuse, the native river soil materials shall be removed from the biological study area (BSA) and deposited at an off-site permitted facility.

WET-2 **Completion of Construction:** Following the completion of construction, the Construction Contractor shall ensure that the Salinas River Channel is returned to its original contour and condition to the greatest extent possible. All constructed ramps into the Salinas River Channel for the temporary construction access road, construction mats, and other temporary material used for construction shall be removed.

AS-1 **Environmental Training Session:** Before construction begins, a qualified biologist shall conduct an environmental training session for all construction and maintenance personnel. At a minimum, the training shall include a description of the special-status species that may occur in the biological study area (BSA), their habitat requirements, and the measures being implemented to avoid and minimize impacts to these species. The environmental training shall include a discussion of the boundaries behind which the workers and equipment must remain.

AS-2 **Biological Monitor:** A qualified biologist shall be present at the work site until all ground-disturbing activities and instruction of workers have been completed, after which the Construction Contractor shall designate a monitor who shall ensure on-site compliance with all avoidance and minimization efforts when the qualified biologist is not on site. The qualified biologist shall ensure the monitor is familiar with the avoidance and minimization efforts and able to identify all the special-status species of potential occurrence in the BSA. The monitor and the qualified biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) at any point during construction. If work is stopped, either the qualified biologist or the on-site monitor shall immediately notify the California Department of Transportation (Caltrans) and the County of Monterey. If a federally listed species is found in the work area during construction and a Biological Opinion has not been issued for the project, then the qualified biologist must stop work and immediately notify Caltrans. Caltrans shall then consult with the USFWS or National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and shall then advise the Construction

Contractor on how to proceed. Likewise, should a State-listed species be found in the work area for which no incidental take permit has been issued, the County's Project Manager shall then consult with CDFW and shall advise the Construction Contractor on how to proceed.

AS-3 **ESA Fencing:** Prior to the start of construction in the Salinas River Channel and along the southern edge of Reservation Road, the qualified biologist shall identify locations for the placement of Environmentally Sensitive Area (ESA) fencing as well as an exclusion fence around the work area. The exclusion fence shall be placed along the outer edge of the ESA fencing to prevent terrestrial animals from entering the work area. The exclusion fence shall be staked and buried at least 6 inches into the soil. The approved biologist shall verify the correct placement and installation of the ESA and exclusion fences before work begins in the area.

AS-4 **Special-Status Species Survey:** Immediately before initial ground disturbance and/or vegetation clearing in the Salinas River Channel, the qualified biologist shall conduct a survey of the work area for special-status species. If special-status species are found, they shall be allowed to leave the work area on their own or, if approved by the USFWS and/or CDFW, the special-status species shall be relocated by the biologist to a safe place outside the work area.

AS-5 **River Monitoring:** During vegetation removal, initial grading, and other ground-disturbing activities in the Salinas River Channel, a qualified biologist shall monitor such activities for reptiles and other small wildlife exposed by such activities and then relocate them in a safe place outside the exclusion fence.

AS-6 **Routes and Boundaries:** Prior to the start of construction, the County of Monterey shall ensure that the number of access routes, the numbers and sizes of staging areas, and the total area of construction activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated both on plans and in the field prior to the start of construction activities.

AS-7 **Vegetation Removal and Trimming:** The County of Monterey shall ensure that vegetation removal and trimming for the access road and

construction areas in the Salinas River Channel would be conducted during the nonbreeding season for birds (i.e., between September 1 and February 14). This shall discourage birds from nesting in construction areas and shall greatly reduce the potential for nesting birds to delay the construction schedule. If vegetation cannot be removed during the nonbreeding season, then preconstruction surveys shall be conducted to avoid impacts to nesting birds.

AS-8 **Nesting Birds:** If project construction takes place during the bird nesting season (February 15 to August 31), all suitable nesting habitat within 50 feet of the work limits shall be surveyed by a qualified biologist no more than 14 days prior to ground-disturbing/vegetation removal activities and again within 2 days (48 hours) of such activities. Areas outside the public right of way (ROW) shall not be surveyed for active nests unless such areas are visible from the public ROW. If an active nest is found, a qualified biologist shall delineate an appropriate buffer using plastic construction fencing (ESA fencing), pin flags, or other easily identified fencing material. If necessary, the biologist shall consult with the USFWS/CDFW to determine an appropriate buffer size. Typically, buffers range from 25 to 200 feet, depending on the species and the location of the nest. During construction, the qualified biologist shall conduct regular monitoring (at CDFW-approved intervals) to evaluate the nest for potential disturbances associated with construction activities. Construction within the buffer shall be prohibited until the qualified biologist determines the nest is no longer active. If an active nest is found after completion of the preconstruction surveys and after construction begins, all construction activities in the nest vicinity shall stop until a qualified biologist has evaluated the nest and erected an appropriate buffer around the nest. If establishment of the buffer is not feasible, the USFWS/CDFW shall be contacted for further avoidance and minimization guidelines.

AS-9 **Western Pond Turtle:** During the Salinas River Channel diversion activities, the approved biologist shall monitor the construction activity to ensure no direct impacts occur to turtles. Any turtles observed in the work area shall be captured by hand or with a dip net

by the biologist and removed to a safe area downstream of the work area.

AS-10 **Western Red Bat:** During tree removal, the construction crew shall leave all limbs cut from trees such as red willow, black cottonwood, and/or eucalyptus in place overnight to allow time for bats to leave the trees during the night. A qualified biologist shall be on hand during tree removal to ensure that cut trees are left in place until the following morning.

AS-11 **Monterey Big-Eared Woodrat:** Before vegetation in the black cottonwood forest and red willow thicket is removed in the area upstream of Davis Road, the area shall be surveyed for woodrat nests by a qualified biologist. If any woodrat nests are located within the work area, they shall be disassembled by hand or with hand tools to allow any woodrats in the nest to move out of the work area. The nest material shall then be moved out of the work area.

TE-1 **River Channelization:** The County of Monterey (County) shall ensure that work within the river (i.e., in and adjacent to water) shall be restricted to the period between June 15 and October 15 to minimize potential impacts to steelhead. During construction, the river would not be dewatered. The river shall be channelized during construction, but the County shall retain a qualified biologist who shall ensure that the channelization shall not restrict flow and shall allow for unrestricted passage of adult and juvenile steelhead through the BSA.

TE-2 **Pile Driving:** Pile driving in the water will not be required during construction of the Davis Road Bridge. The County shall ensure that pile driving shall be conducted on dry land during periods of low water flow (June 15 to October 15), when steelhead are least likely to be present in the BSA. Because pile driving shall occur only on dry land and during the period when steelhead would least likely be present in the BSA, pile driving is not expected to affect steelhead.

3.4.3 Cultural Resources

CR-3 **Environmentally Sensitive Area Action Plan:** During the development of the Plans, Specifications, and Estimates phase, the Project Manager and/or Project Engineer will prepare an

Environmentally Sensitive Area (ESA) Action Plan for the identified archaeological resources CA-MNT-2281H and CA-MNT-2282H. The ESA at site CA-MNT-2281H will be protected by placing a 3-foot-high orange fence around the ESA to prevent construction personnel from entering the site. The ESA at site CA-MNT-2282H will be protected by placing two signs to warn construction personnel to stay out of the boundary of CA-MNT-2282H. The Resident Engineer will notify the Caltrans Archaeologist and Consultant Archaeologist when an ESA breach occurs. The Caltrans Archaeologist will notify the State Historic Preservation Officer (SHPO) within 48 hours of any ESA breach and consult immediately to determine how the breach will be addressed. The ESAs will remain in force throughout the duration of the project. When construction activities are complete, the Resident Engineer and Consultant Archaeologist will coordinate to confirm that protective measures are no longer necessary and that the ESA fencing and signs can be removed.

3.4.4 Geology

GEO-1 **Final Geotechnical Report:** During final design, a detailed geotechnical investigation will be conducted by qualified geotechnical personnel to assess the geotechnical conditions at the project area. The geotechnical investigation will include seismic cone penetration tests and exploratory borings to investigate site-specific soils and conditions, as well as the collection of subsurface soil samples for laboratory testing. Those soil samples will be tested to evaluate the potential for liquefaction, lateral spreading, and settlement. The project-specific findings and recommendations of the geotechnical investigation will be summarized in a Structure Foundation Report and a Geotechnical Design Report to be submitted to the California Department of Transportation (Caltrans) for review and approval. Those findings and recommendations will be incorporated in the final design of the selected Build Alternative.

3.4.5 Noise

N-2 **Monterey County Noise Levels:** Caltrans and/or the County of Monterey will require the Construction Contractors to comply with the allowable noise levels at specified distances from construction activities in accordance with Section 10.60.030 of the Monterey

County Code. Section 10.60.030 of the Monterey County Code prohibits the operation of any machine, mechanism, device, or contrivance that produces a noise level exceeding 85 A-weighted decibels (dBA) measured 50 feet (ft) therefrom. If noise from construction equipment exceeds 85 dBA, then attenuation measures must be utilized, including temporary construction barriers and/or quieter equipment. The prohibition in this section shall not apply to aircraft nor to any such machine, mechanism, device, or contrivance that is operated in excess of 2,500 ft from any occupied dwelling unit.

NOI-1 **Receiver R-22 Noise Barrier:** The County of Monterey Public Works Department shall implement mitigation in the form of a noise barrier at Receptor location R-22 with a minimum height of 12 feet.

NOI-2 **Interior Noise:** Prior to completion of construction, the County of Monterey Public Works Department shall install, or if necessary improve an existing mechanical ventilation system at Receptor R-21 to ensure future 2040 interior noise levels would meet the State's interior standard of 45 dBA CNEL or below.

Chapter 4 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, including project development team meetings, interagency coordination meetings, and consultation with interested parties. This chapter summarizes the results of the efforts of the California Department of Transportation (Caltrans) and the County of Monterey (County) to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Scoping Process

4.1.1 Notice of Preparation

The scoping process for the Davis Road Bridge Replacement and Road Widening Project (proposed project) was initiated with the preparation and distribution of a Notice of Preparation (NOP). The NOP for the project under the California Environmental Quality Act (CEQA) was posted at the County Clerk's Office on December 17, 2013. The NOP was submitted to the California State Clearinghouse for a 43-day review period, which began December 5, 2013, and ended on January 17, 2014. In addition, on December 17, 2013, the *Monterey Herald* published a notice that a public scoping meeting would be held at the Monterey County offices on Thursday, December 19, 2013. The NOP notified the public of the Environmental Impact Report/Environmental Assessment (EIR/EA) being prepared, the scoping meeting date, time, and location, and how to provide comments on the proposed project.

The distribution list for the project scoping materials, including the NOP and CEQA Initial Study, included federal, State, regional, County, and local agencies/elected officials that have jurisdiction or responsibility for any discretionary actions regarding the project; groups, businesses, and organizations that requested inclusion on the project's environmental documentation distribution list; and property owners adjacent to the project boundaries.

Comment letters on the NOP were sent to the County during the review and comment period. Comments received during the NOP review and comment period covered

various topics such as the potential for the project to impact California Utilities Service, Inc. (CUS) facilities or properties, a preference to widen Reservation Road and Blanco Road, access issues at the Davis Road/Hitchcock Road intersection, the amount of farmland impacts, effects to land uses on adjacent properties, and a potential increase in population density.

4.1.2 Scoping Meeting

The County distributed a notification announcing the public scoping meeting to the same recipients that received the NOP. The distribution list included federal State, regional, County, and local agencies/elected officials that have jurisdiction or responsibility for any discretionary actions regarding the project; groups, businesses, and organizations that requested inclusion on the project's environmental documentation distribution list; and property owners adjacent to the project boundaries. The notice letters were distributed via the United States Postal Service (USPS).

The County hosted a public scoping meeting for the proposed project in the Monterey Room on the second floor at the County offices at 168 West Alisal Street in Salinas, California, on December 19, 2013. The meeting was held for the general public and agencies from 4:00 p.m. to 6:00 p.m. The scoping meeting was conducted in an open-house format. A PowerPoint presentation was given by the County Project Manager at 4:30 p.m. that provided background information, raised and addressed key issues, and answered questions about the proposed project. The room included a table at which scoping meeting participants could sign in and write and submit comment cards, a table for viewing project aerial maps, display boards with the preliminary project design plan view and typical cross sections of the project Build Alternatives, and a right-of-way (ROW) exhibit. The displays were used by County staff and the County consultants as visual aids to discuss issues raised during the scoping meeting and to answer questions.

Oral questions and comments were received and noted during the County's presentation at the public scoping meeting. Comment cards were provided for public use. Two comment cards were submitted. Comments received covered various topics, including: the 2040 traffic model not showing any variation in average daily traffic (ADT) volumes, a preference for widening Blanco Road instead of Davis Road, an interest in Transportation Agency of Monterey County (TAMC) funding for the project, a preference to raise Davis Road and build a short bridge, a suggestion to install roundabouts at intersections, a concern with the amount of agricultural land

that would be impacted, a concern about red-legged frog, a concern about the ability to obtain permits to clear the river, a concern about the potential impacts of the new bridge, suggestions for a bridge that provides a bicycle lane that is separate from the vehicles, a bridge that is colored to blend in with the environment, a bridge constructed above the 100-year floodplain, and an assurance that the bridge design would allow for the debris in the river to properly flow during the flood stage. All of the comments received were reviewed and addressed in the technical studies prepared for the project. Refer to Chapter 2 for discussions of the aforementioned issue areas.

4.2 Consultation and Coordination with Public Agencies

The following public agencies were contacted through issuance of the NOP. Some of the public agencies elected not to comment on the NOP. The consultation and coordination with public agencies is summarized below.

4.2.1 Federal Agencies:

- National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service)
  - No comments submitted in response to the NOP.
- United States Army Corps of Engineers (USACE)
  - **June 4, 2014:** The Jurisdictional Delineation was submitted to USACE for verification. Receipt of the request for a jurisdictional determination was acknowledged by the USACE, and a project manager was assigned to the proposed project on July 17, 2014. Verification of the Jurisdictional Delineation is pending.
- United States Fish and Wildlife Service (USFWS)
  - No comments submitted in response to the NOP.

4.2.2 State Agencies

- California Highway Patrol
  - No comments submitted in response to the NOP.
- California Department of Fish and Wildlife (CDFW)
  - No comments submitted in response to the NOP.
- Pacific Gas and Electric (PG&E)
  - **May 22, 2014:** Representatives from the County of Monterey, TRC Solutions, Inc., and PG&E met to review the utility relocations for the proposed project. At this meeting, the PG&E representative asked that the PG&E utility

relocations be described as part of the Environmental Impact Report (EIR) project description.

4.2.3 Regional Agencies

- Association of Monterey Bay Area Governments (AMBAG)
  - No comments submitted in response to the NOP.
- California Regional Water Quality Control Board–Central Coast Region
  - No comments submitted in response to the NOP.

4.2.4 Local Agencies, Associations/Organizations and Utilities

- Agricultural Land Trust
  - **August 13, 2013:** Douglas Poochigian (County of Monterey Public Works) and Michael Hibma (LSA Associates, Inc. [LSA] Cultural Historian) met with Sherwood Darington (Managing Director of the Agricultural Land Trust) on August 13, 2013, to discuss potential project impacts to the Hitchcock-Dolan farmhouse located on the west side of Davis Road between Hitchcock Road and Blanco Road (160 Davis Road).
- Bluffs Homeowners Association
  - No comments submitted in response to the NOP.
- Cal Water Service
  - No comments submitted in response to the NOP.
- City of Salinas Department of Public Works
  - **January 8, 2014:** The City of Salinas Department of Public Works (Public Works) provided written comments requesting additional information regarding the details of the proposed construction at the intersections. Public Works expressed concerns related to traffic level of service (LOS) under mid- to long-range traffic conditions. The written comments included the request that the Public Works Traffic/Transportation Section be included in the scope and review of the traffic study prepared for the proposed project. Public Works requested there be coordination between the proposed project and the City's planned improvements and existing City facilities. In addition, Public Works requested that the installation of a fiberoptic plan/system be included in the design of the proposed project. Additionally, Public Works suggested that the proposed project staff work with the Monterey-Salinas Transit (MST) to provide appropriate transit amenities such as bus pullouts and benches/ shelters to accommodate pedestrians in the project area. Furthermore, the

written comments included specific suggestions on the environmental document (Initial Study).

- Fort Ord Reuse Authority
  - No comments submitted in response to the NOP.
- Monterey County Agricultural Commissioner
  - **January 15, 2014:** The Agricultural Commissioner's office provided written comments. The comments included the request to expand on the need for the road widening, to include that the East Garrison Specific Plan EIR states that the project is operating at an unacceptable LOS, and to include the exact acreages of permanent and temporary loss of farmland and mitigation at a 2:1 ratio.
- Monterey County Animal Services Shelter
  - No comments submitted in response to the NOP.
- Monterey County Environmental Health
  - No comments submitted in response to the NOP.
- Monterey County Historic Resources Review Board
  - No comments submitted in response to the NOP.
- Monterey County Parks Department
  - No comments submitted in response to the NOP.
- Monterey County Sheriff's Department
  - No comments submitted in response to the NOP.
- Monterey County Water Resources Agency (MCWRA)
  - **January 17, 2014:** The MCWRA provided written comments that included stating that the Salinas River flow cannot be impeded at any point during construction activities and that measures must be implemented to protect the Salinas River from potential contaminants. The MCWRA additionally stated that construction activities should not impact or interrupt the operation of the "Salinas River near Spreckels, CA" streamflow gage. In addition, the MCWRA requested that the Draft EIR include a discussion of the Monterey County Code Chapter 16.16, which describes the regulations of floodplains in Monterey County, and requested that the Draft EIR describe any Federal Emergency Management Agency (FEMA) regulatory mapping requirements and relevant mitigation measures that would apply to the proposed project.
  - **October 8, 2014:** The MCWRA provided written comments that included stating there would be no significant adverse impact to the floodplain, as per Monterey County Code 16.16, Regulation for Floodplains in Monterey

County. Therefore, there would be no encroachments into the floodway, and a FEMA Conditional Letter of Map Revision (CLOMR) would not be required for the proposed project.

- Resource Management Agency – Monterey County Building Services
  - No comments submitted in response to the NOP.
- Resource Management Agency – Monterey County Planning Department
  - No comments submitted in response to the NOP.
- Salinas Rural Fire Protection District
  - No comments submitted in response to the NOP.

4.3 Public Participation

- **Agricultural Advisory Board Meeting, July 24, 2014:** Pamela Reading (LSA Project Manager) and Enrique Saavedra and Billy Issa (representatives from the County of Monterey Public Works Department) presented the impact analysis and conclusions of the Farmlands Analysis at the Agricultural Advisory Board meeting on July 24, 2014, and sought the Agricultural Advisory Board's feedback on the proposed mitigation measures for the project impacts.
- **Agricultural Advisory Board Meeting, August 25, 2014:** Pamela Reading (LSA Project Manager) and Enrique Saavedra and Billy Issa (representatives from the County of Monterey Public Works Department) met with the Agricultural Advisory Board to discuss the relationship of the proposed project to the Regional Transportation Plan (RTP).
- **TAMC Meeting, August 19, 2014:** Pamela Reading (LSA Project Manager), the County of Monterey Public Works, the County of Monterey RMA–Planning Department, and the TAMC discussed the TAMC's proposal for a cycle track along the east side of Davis Road and the feasibility of including a cycle track as part of the proposed project at this time in the proposed project's environmental documentation process.
- **TAMC Meeting, October 20, 2014:** Pamela Reading (LSA Project Manager) and Enrique Saavedra (representative from the County of Monterey Public Works Department) met with TAMC again to discuss the cycle track design for potential inclusion in the proposed project environmental documentation.

4.4 Native American Consultation

Native American consultation was previously conducted for the project in 2010 and is described in detail in the *Archaeological Survey Report* (ASR) (2014). The 2010

consultation conducted for the project was updated, and letters were mailed on January 28, 2014, to all 12 local Native American representatives identified by the Native American Heritage Commission (NAHC) as part of the updated Sacred Lands File records search conducted on January 15, 2014. Follow-up telephone calls and emails were conducted with individuals who did not respond to the letter dated January 28, 2014. Six individuals contacted as part of this consultation request responded. This information can be found in the ASR (2014). Table 4.1 summarizes the Native American consultation that was conducted in 2014.

Table 4.1 Summary of 2014 Native American Consultation

Name	Affiliation	Date and (Method)[1] of Contacts	Notes
Christianne Arias	Ohlone/Costanoan-Esselen Nation	01/28(L); 03/14(T)	Left VM for Ms. Arias on 03/14. No response received to date.
Tony Cerda	Costanoan Rumsen Carmel Tribe	01/28(L); 02/28(T)	Requested via telephone that he be informed of findings from the project; wants to be notified if human remains or artifacts are identified.
Ramona Garibay	Trina Marine Ruano Family	01/28(L); 02/28(T)	Left VM for Ms. Garibay on 02/28. No response received to date.
Jakki Kehl	None Noted by NAHC	01/28(L); 02/28(T); 03/03(T); 03/04(T,L)	Attempted to reach Ms. Kehl via telephone on 02/28, 03/03, and 03/04 and was disconnected and unable to leave a VM due to full mailbox. Mailed a follow-up letter on 03/04 requesting Ms. Kehl contact LSA. No response received to date.
Edward Ketchum	Amah Mutsun Tribal Band	01/28(L); 02/28(E); 06/23 (E)	No telephone number provided by NAHC; attempted email contact on 02/28. Responded via email on 06/23, "I believe the close proximity to the Salinas River requires a Native American monitor while any ground penetration takes place."
Valentin Lopez	Amah Mutsun Tribal Band	01/28(L); 03/03(T)	Left VM for Mr. Lopez on 03/03. No response received to date.
Pauline Martinez-Arias	Ohlone/Costanoan-Esselen Nation	01/28(L); 03/14(T)	Left VM for Ms. Martinez-Arias on 03/14. No response received to date.
Louise Miranda-Ramirez	Ohlone/Costanoan-Esselen Nation	01/28(L); 02/11(E)	Responded via email, "Thank you for keeping OCEN advised about the Davis Rd Bridge project. We look forward to providing you with an OCEN-trained monitor when you are ready."
Ann Marie Sayers	Indian Canyon Mutsun Band of Costanoan	01/28(L); 02/28(T)	Asked via telephone if there are sites in the vicinity; requested that an archaeologist and Native American monitor project ground-disturbing activities; requested that Indian Canyon be considered for monitoring during project ground disturbance
Linda G. Yamane	None Noted by NAHC	01/28(L); 02/28(T)	Left VM for Ms. Yamane on 02/28. No response received to date.
Michelle Zimmer	Amah Mutsun Tribal Band	01/28(L); 03/03(T,E)	Spoke to Irene on 03/03 via telephone—who transferred me to Michelle—and was disconnected. Michelle responded on behalf of Irene and the Tribe via email shortly thereafter and requested (1) cultural sensitivity training for all crews; and (2) an on-site qualified archaeological and Native American monitor during excavation.
Irene Zwierlein	Amah Mutsun Tribal Band	01/28(L); 03/03(T,E)	Spoke to Irene on 03/03 via telephone—who transferred me to Michelle—and was disconnected. Michelle responded on behalf of Irene and the Tribe via email shortly thereafter and requested (1) cultural sensitivity training for all crews; and (2) an on-site qualified archaeological and Native American monitor during excavation.

Source: *Archaeological Survey Report* (2014).
[1] L = Letter; T = Telephone; E = Email
LSA = LSA Associates, Inc.
NAHC = Native American Heritage Commission
VM = voicemail

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Chapter 5 List of Preparers

The following Caltrans staff, County staff, and consultants contributed to the preparation of this Environmental Impact Report/Environmental Assessment (EIR/EA).

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Alexandra Bevk, Architectural Historian. Contribution: *Historical Resources Evaluation Report* oversight.

Robert G. Carr, Landscape Architect, CA License #3473, District Scenic Highway Coordinator. Contribution: *Visual Impact Assessment Report* oversight.

Tom Edell, District Biologist. Contribution: *Natural Environmental Study, Biological Assessment,* and Wetland Delineation oversight.

Randy LaVack, Branch Chief Environmental Stewardship Branch. Contribution: Environmental document oversight.

Kelso Vidal, Environmental Planner. Contribution: Environmental document oversight.

Kelda Wilson, Principal Investigator of Prehistoric Archaeology. Contribution: *Historic Property Survey Report, Archaeological Survey Report,* Environmentally Sensitive Area Action Plan, *Extended Phase I Report,* and *Finding of No Adverse Effect* oversight.

5.2 County of Monterey Public Works Department

Billy Issa, Assistant Civil Engineer. Contribution: Technical reports and environmental document oversight.

Doug Poochigian, P.E., Civil Engineer. Contribution: Technical reports and environmental document oversight.

Enrique Saavedra, P.E., Senior Civil Engineer, Project Manager. Contribution: Technical reports and environmental document oversight.

5.3 LSA Associates, Inc.

Rob McCann, Principal. Contribution: Technical reports and environmental document oversight.

Pamela Reading, Associate, Project Manager. Contribution: *Water Quality Assessment Report, Farmlands Analysis*, and environmental document preparation.

Chip Bouril, Soil Scientist/Wetland Delineation Specialist. Contribution: *Delineation of Waters of the United States*.

Laurel Frakes, Environmental Planner. Contribution: Environmental document preparation.

Greg Gallaugher, Associate, Senior GIS Specialist. Contribution: Environmental graphics preparation.

Michael Hibma, Senior Cultural Resource Manager. Contribution: *Historical Resources Evaluation Report*, *Historic Property Survey Report*, and *Finding of No Adverse Effect*.

Beverly Inloes, Senior Technical Editor/Word Processor. Contribution: Environmental document preparation.

E. Timothy Jones, Senior Cultural Resource Manager. Contribution: *Historic Property Survey Report*, *Archaeological Survey Report*, Environmentally Sensitive Area Action Plan, *Extended Phase I Report*, and *Finding of No Adverse Effect*.

Neal Kaptain, Associate Archaeologist. Contribution: *Historic Property Survey Report, Archaeological Survey Report*, Environmentally Sensitive Area Action Plan, *Extended Phase I Report*, and *Finding of No Adverse Effect*.

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Keith Lay, Associate, Air Quality Specialist. Contribution: *Air Quality Assessment Report*.

Eric Lichtwardt, Associate Biologist. Contribution: *Natural Environment Study* and *Biological Assessment*.

Bridget Lillis, Assistant Environmental Planner. Contribution: *Water Quality Assessment Report, Farmlands Analysis,* and environmental document preparation.

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5.4 TRC Engineers, Inc.

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Mark Imbriani, P.E., Structural Design Practice Leader. Contribution: Project design

5.5 Earth Systems Pacific

Tim Conroy, CEG, Associate Geologist. Contribution: *Initial Site Assessment* and Soil Analysis and Site Screening.

5.6 PARIKH Consultants, Inc.

A. Emre Ortakci, P.E. Contribution: *Preliminary Geotechnical Memorandum* and *Geotechnical Engineering Investigation Report*.

Y. Davis Wang, Ph.D., P.E. 52911. Contribution: *Preliminary Geotechnical Memorandum* and *Geotechnical Engineering Investigation Report*.

5.7 Avila & Associates Consulting Engineers, Inc.

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5.8 Vallier Design Associates, Inc.

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Marcia Vallier, Landscape Architect License #CA3293. Contribution: *Visual Impact Assessment Report*.

5.9 Peters Engineering Group

John Rowland, PE, TE. Contribution: *Traffic Impact Study*.

Chapter 6 Distribution List

This Environmental Impact Report/Environmental Assessment (EIR/EA) has been distributed to the state, regional, and local agencies; interested parties; and utilities, services, and businesses listed in this section. In addition, all property owners and occupants within a 0.25-mile radius of the project limits have been provided the Notice of the Availability of the EIR/EA.

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Attn: Caltrans Lead Variance Notification
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Appendix A CEQA Checklist

The California Environmental Quality Act (CEQA) checklist determinations below are based on the Project's Preferred Alternative. Supporting documentation of all CEQA checklist determinations are provided in Chapter 3 of this Environmental Impact Report/Environmental Assessment (EIR/EA). Documentation of "No Impact" determinations under the National Environmental Policy Act (NEPA) is provided at the beginning of Chapter 2. Documentation of "No Impact" determinations under CEQA is provided in Chapter 3.

CEQA checklist determinations for Alternative 2 would be equal to or less than those identified for the Preferred Alternative except for items a), b), and f) under Section XVI, Transportation/Traffic, for which Alternative 2 would result in a greater impact as compared to the Preferred Alternative.

Discussion of all avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2, and any CEQA-specific mitigation measures are discussed at the end of Chapter 3.

05-MON-0-CR	**---**	**05-0000-0588**
Dist.-Co.-Rte.	P.M/P.M.	E.A.

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	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
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?	☐	☒	☐	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☒	☐	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
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?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on 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?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
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:				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
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?	An assessment of the greenhouse gas emissions and climate change is included in the body of the environmental document. While the County, in cooperation with 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 the County's 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. The County 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.			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				
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?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
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?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
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?	☐	☐	☐	☒
f) 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?	☐	☐	☐	☒
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
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:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

	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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
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?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Appendix B Section 4(f) De Minimis Determination and Resources Evaluated Relative to the Requirements of Section 4(f)

B.1 Section 4(f) De Minimis Determination

B.1.1 Regulatory Setting

Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only de minimis impacts on lands protected by Section 4(f). This revision provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a de minimis impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) de minimis findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

B.1.2 Hitchcock-Dolan Farm

The Hitchcock-Dolan Farm, located at 160 Davis Road (Assessor's Parcel Numbers [APNs] 270-031-006 and 207-031-007), is within the project's Area of Potential Effects (APE) and is privately owned. This architectural resource was built circa 1897 and is considered eligible for listing in the National Register of Historic Places (National Register) for purposes of Section 106. The Hitchcock-Dolan Farm was previously evaluated in 2007 and was identified as appearing to have significant historical associations; however, a formal determination of eligibility for inclusion in the National Register was not made. Based on background research and field observations conducted as part of the Davis Road Bridge Replacement and Road Widening Project, the conclusions of the previous investigation regarding the Hitchcock-Dolan Farm's significant historical associations were affirmed. However, a reexamination of the basis for the 2007 evaluation supports the following

reclassification of the property's status: the Hitchcock-Dolan Farm appears individually eligible for inclusion in the National Register and the California Register of Historical Resources (California Register) at the local level of significance under Criteria A/1 (events) and C/3 (architecture) for associations identified in the 2007 evaluation.

Implementation of the build alternatives would encroach on the recorded boundary of the Hitchcock-Dolan Farm by converting a 10-foot (ft) strip of land into the future Davis Road right-of-way. However, after implementation of the build alternatives, there would still be 50 ft between the edge of the Davis Road right-of-way and the Hitchcock-Dolan Farm. Therefore, this minor change would not detract from the essential physical and character-defining features of the farm.

It was also concluded in the cultural resources studies for the build alternatives that implementation of the build alternatives would result in an increase in visual and audible effects at the Hitchcock-Dolan Farm. However, these effects would not alter or diminish the Hitchcock-Dolan Farm's integrity or alter the characteristics that qualify it for listing in the National Register. Integrity of location, setting, feeling, materials, workmanship, and association of the property would not be adversely affected under Section 106.

Based on the above discussion, implementation of the build alternatives would not result in an adverse effect to the Hitchcock-Dolan Farm as confirmed by the State Historic Preservation Office (SHPO) in its concurrence letter dated October 12, 2015 (refer to Appendix E). Therefore, the California Department of Transportation (Caltrans) has made a preliminary de minimis determination under Section 4(f) for the minor use of the Hitchcock-Dolan Farm for the purposes of this project (refer to the May 29, 2014, letter regarding Section 4(f) Coordination with Section 106 Consultation provided at the end of Appendix B). No avoidance, minimization, and/or mitigation measures for the Hitchcock-Dolan Farm were needed to make the de minimis finding.

B.2 Resources Evaluated Relative to the Requirements of Section 4(f)

This section of the document discusses parks, recreational facilities, wildlife refuges and historic properties found within or next to the project area that do not trigger Section 4(f) protection because either: 1) they are not publicly owned, 2) they are not

open to the public, 3) they are not eligible historic properties, 4) the project does not permanently use the property and does not hinder the preservation of the property, or 5) the proximity impacts do not result in constructive use.

The properties listed in Table B.1 were determined not to trigger protection under the requirements of Section 4(f). The City of Salinas University Park Elementary School, Hartnell Neighborhood Park, and The Bluff's tennis courts are not within the Area of Potential Effects (APE) or right-of-way limits of the project. The two historic properties listed in Table B.1 below are located within the APE but are not located within the right-of-way limits of the project. Table B.1 describes the location of each property/resource (less the historic properties due to resource sensitivity) in relationship to the right-of-way limits for the project and explains why the build alternatives do not result in the permanent or temporary use of those properties/resources that would trigger the requirements for protection under Section 4(f).

The properties/resources described in Table B.1 were further evaluated to determine whether the build alternatives would result in constructive use of those properties/resources. To derive the conclusions, the detailed analyses related to access, visual and aesthetics, air quality, and noise provided in Chapter 2, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, of the Draft EIR/EA were reviewed. That review did not identify any proximity impacts resulting from the build alternatives that would be so severe that the activities, features, or attributes that qualify those properties/resources for protection under Section 4(f) would be substantially impaired. Therefore, as explained in Table B.1, the build alternatives would not result in constructive use of those properties/resources and would not trigger the requirements for protection under Section 4(f).

Table B.1: Resources Determined Not to Trigger Protection Under the Requirements of Section 4(f)

Owner/Operator, Location, and Description of Resource	Why Resource Does Not Tigger Protection Under Section 4(f)
Publically Owned School(s)	
University Park Elementary School. This school is part of the Salinas City Elementary School District. It is located at 833 West Acacia Street in the City of Salinas. Outdoor recreational amenities at the school include basketball courts, a baseball field, soccer field and open grassy areas.	This school is located outside of the project study area and outside of the right-of-way limits for the build alternatives. There would be no temporary or permanent use of land from this school by any of the project build alternatives; therefore, the requirements for protection under Section 4(f) are not triggered. The nearest proposed right-of-way for the project is 0.36 mile from the southern boundary of this school. During construction and operation of the build alternatives, access to this school would not be affected because the school is a substantial distance from the nearest project features. As a result, the project build alternatives would not result in proximity impacts on University Park Elementary School related to changes in traffic circulation and access. Based on the distance of this school from the project, the build alternatives would not result in impacts that would substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance and, therefore, would not result in constructive use of the recreational amenities at this school.
Park(s)	
Hartnell Neighborhood Park. This is owned and operated by the City of Salinas. It is located at 725 West Acacia Street in the City of Salinas. Park amenities include two play structures, swing sets, basketball court and open grassy areas.	This park is located outside of the project study area and outside of the right-of-way limits for the build alternatives. There would be no temporary or permanent use of land from this park by any of the project build alternatives; therefore, the requirements for protection under Section 4(f) are not triggered. The nearest proposed right-of-way for the project is 0.56 mile from the southern corner of this park. During construction and operation of the build alternatives, access to this park would not be affected because the park is a substantial distance from the nearest project features. As a result, the project build alternatives would not result in proximity impacts on Hartnell Neighborhood Park related to changes in traffic circulation and access. Based on the distance of this park from the project, the build alternatives would not result in impacts that would substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance and, therefore, would not result in constructive use of this park.
Recreational Facilities	
The Bluff's tennis courts. The two tennis courts are part of The Bluff's gated community. They are located off Reservation Road adjacent to the southeasterly limits of the project area.	The tennis courts are located outside of the project study area and outside of the right-of-way limits for the build alternatives. There would be no temporary or permanent use of land from the tennis courts by any of the project build alternatives. The tennis courts are part of The Bluff's gated community and therefore are not publicly owned or open to the public. For these reasons, the tennis courts do not trigger protection under Section 4(f).
Historic Properties	
Historic Period Archaeological Site CA-MNT-2281H. This site was used as a municipal dumping facility until the 1970s and contains a surface scatter of materials.	This archaeological site is located within the project's APE. Previously excavated portions of CA-MNT-2281H were concluded not to contribute to the resource's eligibility for listing in the National Register; however, for the purposes of this project only, the remainder of CA-MNT-2281H is assumed eligible for inclusion in the National Register. An Environmentally Sensitive Area (ESA) would be established for this area. Implementation of the build alternatives

Table B.1: Resources Determined Not to Trigger Protection Under the Requirements of Section 4(f)

Owner/Operator, Location, and Description of Resource	Why Resource Does Not Tigger Protection Under Section 4(f)
	would result in ground-disturbing activities at the margins of this cultural resource site and outside of the ESA. It was concluded in the cultural resources studies that the construction and operation of the build alternatives would not impact CA-MNT-2281H under Section 106. Because there would be no use of this historic property, the requirements for protection under Section 4(f) are not triggered by the build alternatives at CA-MNT-2281H.
Historic Period Archaeological Site CA-MNT-2282H. This site consists of a moderate-to-dense scatter of historic period archaeological materials in a field of lettuce.	This archaeological site is located within the project's APE and is considered eligible for inclusion in the National Register and California Register for the purposes of this project. An ESA would be established for CA-MNT-2282H and construction personnel and equipment would be prohibited within the ESA. It was concluded in the cultural resources studies that the construction and operation of the build alternatives would not impact CA-MNT-2282H under Section 106. Because there would be no use of this historic property, the requirements for protection under Section 4(f) are not triggered by the build alternatives at CA-MNT-2282H.

Source: LSA Associates, Inc. (2015).
APE = Area of Potential Effects
APN = Assessor's Parcel Number
California Register = California Register of Historical Resources
CEQA = California Environmental Quality Act
National Register = National Register of Historic Places

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN, Governor

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Flex your power!
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May 29, 2014

Carol Roland-Nawi Ph.D.
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Subject: Section 4(f) Coordination with Section 106 Consultation

Dear Dr. Roland-Nawi:

The California Department of Transportation (Caltrans) is assigned responsibilities for project review and compliance under the National Environmental Policy Act (NEPA), the National Historic Preservation Act implemented by 36 CFR Part 800 (Section 106) and what is commonly referred to as Section 4(f) of the Department of Transportation Act now codified as 23 USC 138 and 49 USC 303 (Section 4(f)). The Section 4(f) implementing regulations are codified as 23 CFR Part 774. These regulations identify the State Historic Preservation Officer (SHPO) as the "official with jurisdiction" over historic sites (properties on or eligible for the National Register of Historic Places). The Federal Highway Administration (FHWA) Policy Paper on the application of Section 4(f) and additional information on Section 4(f) can be found at http://environment.fhwa.dot.gov/4f/index.asp.

Section 4(f) requires Caltrans to coordinate with the SHPO prior to making determinations on the "use" of historic sites. Caltrans coordinates with the SHPO through the Section 106 consultation process using concurrence with Section 106 findings as the basis for Caltrans' subsequent Section 4(f) determinations. Caltrans may make a *de minimis* determination for a minor use of a historic property (such as a sliver take) with the written concurrence of the SHPO on a finding of "no historic properties affected" or "no adverse effect". Both Section 106 and the 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, The Advisory Council on Historic Preservation, The California State Historic Preservation Officer, and The California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, As It Pertains To The Administration Of The Federal-Aid Highway Program in California* (PA) provide for situations where Caltrans would not receive written concurrence from your office on these findings.

This letter informs you that Caltrans will treat your non-response under the PA as written concurrence for the purposes of 4(f) compliance in circumstances where Section 106 and the PA allow Caltrans to move forward in the Section 106 process without written concurrence from the SHPO on individual undertakings. These circumstances include the following:

1) No Historic Properties Affected findings (106 and PA).
2) No Adverse Effect with Standard Conditions findings (PA).
3) No Adverse Effect findings where the SHPO has not responded within 30 days (106 and PA).

When Caltrans submits a No Adverse Effect finding to your office for comment, we will indicate whether or not Section 4(f) properties have been identified and if Caltrans may make a *de minimis* or other Section 4(f) determination based on your concurrence with the finding.

Please sign below as acknowledgement that Caltrans has notified you that it may make a *de minimis* or other Section 4(f) determination for Section 4(f) properties in the above circumstances, and that this letter constitutes written concurrence for purposes of Section 4(f) determinations.

Please contact Anmarie Medin at (916) 653-6187 or anmarie.medin@dot.ca.gov if you have any questions regarding the terms of this letter agreement.

Sincerely,

KATRINA C. PIERCE
Chief, Division of Environmental Analysis
Caltrans Headquarters, Sacramento CA

5-30-14
Date

Carol Roland-Nawi Ph.D.
California State Historic Preservation Officer

c: Vincent Mammano, FHWA Division Administrator (via email)
Anmarie Medin, Caltrans Cultural Studies Office Chief (via email)
Gina Moran, Caltrans Environmental Management Office (via email)

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Appendix C Title VI Policy Statement

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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.

MALCOLM DOUGHERTY
Director

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Appendix D Avoidance, Minimization, and/or Mitigation Summary

This appendix summarizes the avoidance, minimization and/or mitigation measures associated with potential impacts identified in Chapter 2 and Chapter 3 for the Preferred Alternative.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
2.3 Farmlands/Timberlands	**AG-1**	**Agricultural Land Preservation:** Prior to the start of construction, the Monterey County Department of Public Works shall ensure that all permanent impacts to farmlands be mitigated in the following ways: The project plans and specifications shall state that the Contractor shall stockpile all agricultural topsoil that is removed as part of the bridge replacement and road widening and export it to a suitable location identified by the Ag Land Trust to be used to create new farmland; and Agricultural land currently under a conservation easement and being impacted by the project shall be preserved at a 1:1 ratio with agricultural land of equivalent farming capability. This shall be accomplished by payment of a fee to the Ag Land Trust, which would be used solely for the purpose of acquiring agricultural land and/or agricultural conservation easements to protect equivalent farmland. The protected farmland shall be located in the Greater Salinas Area. Documentation of the fee payment shall be submitted to the Resource Management Agency Planning Department.
	AG-2	**Agricultural Easement Land:** Prior to construction, the Monterey County Department of Public Works shall obtain written permission from the Grantees of Agricultural Conservation Easement Document Nos. 2001032384, 2001013353, and 2001032383 to acquire land for the purpose of widening Davis Road. The County of Monterey (Grantor) shall demonstrate to the Grantee that the proposed paving, or covering of the soil, shall not substantially diminish or impair the agricultural productivity of the properties. The abovementioned Agricultural Conservation Easements shall be revised and re-recorded to reflect the new geographic boundaries of the Agricultural Conservation Easement areas after implementation of the proposed project.
2.5 Utilities/Emergency Services	**UES-1**	During final design, the County of Monterey Public Works Department Project Engineer shall prepare utility relocation plans in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in-place. If relocation is necessary, the final design shall focus on relocating utilities within the right of way (ROW) or other existing public ROWs and/or easements. If relocations outside of existing ROWs or additional public ROWs and/or easements required for the project are necessary, the final design shall focus on relocating those facilities to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans shall be included in the project specifications.
	UES-2	Prior to and during construction, the County of Monterey Public Works Department Project Engineer shall ensure the components of the utility relocation plans provided in the project specifications are properly implemented by the Construction Contractor.
	UES-3	Prior to utility relocation activities, the Construction Contractor shall coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance about the date and timing of potential service disruptions.
2.6 Traffic and Transportation/Pedestrian and Bicycle Facilities	**T-1**	**Traffic Control and Safety Assurance Plan:** Prior to construction, the County of Monterey (County) shall require the Construction Contractor to prepare a Traffic Control and Safety Assurance Plan in accordance with professional engineering standards and submit the plan to the County for review and approval. Elements of the Plan shall include, but are not limited to, the following: • Post advanced warning signs of construction activities to allow motorists to select alternative routes. • Install detour signs on the alternative routes around the closed road segment. • Publish notices of the location and timing of road closures in local newspapers and on available websites to allow motorists to select alternative routes.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
		• Maintain access for emergency vehicles at all times. Provide advance notification to local police, fire, and emergency service providers at least 2 weeks in advance of any road closures or detours due to the timing, location, and duration of construction activities that could affect the movement of emergency vehicles on roadways in the area. • Maintain access for private driveways.
2.8 Cultural Resources	**CR-1**	**Discovery of Cultural Resources:** If cultural materials are discovered during ground disturbance and earthmoving the Monterey County Department of Public Works will require the Construction Contractor to divert all such activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find.
	CR-2	**Discovery of Human Remains:** If human remains are discovered during ground disturbance and earthmoving, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie the remains and the County Coroner will be contacted by the person who discovered the remains. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendant (MLD). At that time, the landowner or representative will work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable should human remains, including those interred outside of formal cemeteries, be encountered.
	CR-3	**Environmentally Sensitive Area Action Plan:** During the development of the Plans, Specifications, and Estimates phase, the Project Manager and/or Project Engineer will prepare an Environmentally Sensitive Area (ESA) Action Plan for the identified archaeological resources CA-MNT-2281H and CA-MNT-2282H. The ESA at site CA-MNT-2281H will be protected by placing a 3-foot-high orange fence around the ESA to prevent construction personnel from entering the site. The ESA at site CA-MNT-2282H will be protected by placing two signs to warn construction personnel to stay out of the boundary of CA-MNT-2282H. The Resident Engineer will notify the Caltrans Archaeologist and Consultant Archaeologist if an ESA breach occurs. The Caltrans Archaeologist will notify the State Historic Preservation Officer (SHPO) within 48 hours of any ESA breach and consult immediately to determine how the breach will be addressed. The ESAs will remain in force throughout the duration of the project. When construction activities are complete, the Resident Engineer and Consultant Archaeologist will coordinate to confirm that protective measures are no longer necessary and that the ESA fencing and signs can be removed.
2.9 Hydrology and Floodplain	**HYD-1**	**Construction General Permit:** The project shall comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-0009-DWQ, as amended by 2010-2014-DWQ and 2012-0006-DWQ, NPDES No. CAS000002, or any subsequent permit. The project shall comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate risk level. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and shall include Best Management Practices (BMPs) to control the pollutants (e.g., sediment control, temporary soil stabilization, construction materials management, and non-storm water BMPs).

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
2.10 Water Quality and Storm Water Runoff	**WQ-1**	**Phase II Municipal General Permit:** The project shall comply with the provisions of the NPDES General Permit, Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Phase II Municipal General Permit), Order No. 2013-0001-DWQ, No. CAS000004, or any subsequent permit. The Phase II Municipal General Permit shall include implementation of Treatment Control BMPs to the maximum extent practicable (MEP). Treatment Control BMPs include infiltration ditches with and without check dams and a retention pond.
	WQ-2	**Resolution R3-2013-0032:** The project shall comply with the provisions of the Post-Construction Storm Water Management Requirements for Development Projects in the Central Coast Region (Resolution No. R3-2013-0032). The project shall comply with the Runoff Retention and Peak Management performance requirements applicable to the project (Tier 4). The project shall prevent off-site discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data. Compliance must be achieved by optimizing infiltration and retaining the remaining volume via storage, rainwater harvesting, and/or evapotranspiration. The project shall follow Low-Impact Development standards to meet runoff retention performance requirements. The project shall meet peak management requirements so that post-development peak flows discharged from the site shall not exceed pre-project peak flows for the 2- through 10-year storm events.
	WQ-3	**City of Salinas Phase I General Permit:** The project shall comply with the provisions of the WDRs for the City of Salinas Municipal Storm Water Discharges (Order No. R3-2012-0005) (NPDES Permit No. CA0049981). Discharges of runoff from industrial and construction sites are subject to dual (State and local) storm water regulation. Under this dual system, the Central Coast Regional Water Quality Control Board (RWQCB) is responsible for enforcing statewide General Permits. NPDES municipal regulations require the municipal permittee to develop and implement measures to address runoff from industrial and construction activities. Those measures shall require the implementation of additional BMPs for activities subject to both State and local regulation.
	WQ-4	**Erosion Control Ordinance:** The County of Monterey (County) shall ensure the project complies with the County Municipal Code, Chapter 16.12. During the plans, specifications, and estimates (PS&E) phase, an Erosion Control Ordinance shall be submitted to the County Director of Public Works for approval. The Erosion Control Ordinance shall indicate the proposed methods for the control of runoff, erosion, and sediment movement during project operations.
	WQ-5	**Caltrans Best Management Practices:** The project shall comply with Section 7-1.01G of the California Department of Transportation (Caltrans) Standard Specifications – Water Pollution Control and the Caltrans Construction Manual, Section 6-20 – Erosion Control and Highway Planting, in order to minimize water quality impacts by using Caltrans BMPs. The project shall minimize the mobilization of sediments during in-water work by using silt trapping devices (e.g., curtains) during removal of the old bridge and shall implement Caltrans BMPs for the control of noxious weeds, including using weed-free seed and mulching materials.
2.11 Geology/Soils/Seismic/Topography	**GEO-1**	**Final Geotechnical Report:** During final design, a detailed geotechnical investigation will be conducted by qualified geotechnical personnel to assess the geotechnical conditions at the project area. The geotechnical investigation will include seismic cone penetration tests and exploratory borings to investigate site-specific soils and conditions, as well as the collection of subsurface soil samples for laboratory testing. Those soil samples will be tested to evaluate the potential for liquefaction, lateral spreading, and settlement. The project-specific findings and recommendations of the geotechnical investigation will be summarized in a Structure Foundation Report and a Geotechnical Design Report to be submitted to the California Department of Transportation (Caltrans) for review and approval. Those findings and recommendations will be incorporated in the final design of the selected Build Alternative.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
2.13 Hazardous Waste/Materials	**HAZ-1**	**Asbestos-Containing Materials:** Prior to completion of Plans, Specifications, and Estimates (PS&E) and demolition of any structures, the County of Monterey shall ensure that asbestos surveys are conducted on those structures planned for demolition. The asbestos surveys shall be conducted by a licensed consultant and shall include inspection of the existing bridge over the Salinas River and any concrete irrigation or culvert pipes that are planned for removal. The results of these surveys will determine the recommendations for removal, containment, and off-site transportation and disposal, as appropriate.
	HAZ-2	**Lead-Based Paint:** Prior to completion of Plans, Specifications, and Estimates (PS&E) and demolition of any structures, the County of Monterey shall ensure that lead-based paint (LBP) surveys are conducted on those structures planned for demolition. LBP surveys shall be conducted by a licensed consultant and shall include inspection of the existing bridge over the Salinas River. The results of these surveys will determine the recommendations for removal, containment, and off-site transportation and disposal, as appropriate.
	HAZ-3	**Metals in Road Striping:** Prior to completion of the Plans, Specifications, and Estimates (PS&E) and during construction, the County of Monterey shall ensure that yellow traffic striping and pavement are sampled and tested in accordance with California Department of Transportation (Caltrans) Standard Special Provisions. The results of these surveys will determine the recommendations for removal, containment, and off-site transportation and disposal, as appropriate.
	HAZ-4	**Lead Compliance Plan:** The County of Monterey shall include the requirements for a Lead Compliance Plan in any bid and contract document for the project. Prior to grading activities, the construction contractor shall prepare a Lead Compliance Plan in accordance with Caltrans Standard Special Provisions 7-1.02K(6)(j)(iii), the California Code of Regulations, and California Occupational Safety and Health Administration (Cal/OSHA) standards. The Lead Compliance Plan shall address the presence of aerially deposited lead (ADL) in the soils in the project area and the health and safety of construction workers.
	HAZ-5	**Unknown Hazards:** The procedures outlined in the Caltrans Unknown Hazards Procedures for Construction (http://www.dot.ca.gov/ser/vol1/sec3/physical/ch10haz/chap10.htm#unant_contam_decision_tree) shall be followed during construction in the event that an unknown hazardous contamination is revealed or unknown hazardous materials/waste are encountered.
2.14 Air Quality	**AQ-1**	**Caltrans Standard Specifications for Construction Section 14-9:** During construction, the Construction Contractor shall comply with California Department of Transportation (Caltrans) Standard Specifications for Construction Section 14-9. Section 14-9.02 specifically requires compliance by the Construction Contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18 of the Caltrans Standard Specifications for Construction.
	AQ-2	**Construction Equipment:** Prior to the start of construction, the Construction Contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency. The construction contractor shall ensure that construction grading plans include a statement that all construction equipment shall be tuned and maintained in accordance with the manufacturers' specifications.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures
	AQ-3 **Construction Grading Plans:** Prior to the start of construction, the Construction Contractor shall ensure that construction grading plans include a statement that work crews shall shut off equipment when not in use. **AQ-4** **Construction Timing:** During construction, the Construction Contractor shall time the construction activities so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways. **AQ-5** **Ridesharing and Transit Incentives:** During construction, the Construction Contractor shall support and encourage ridesharing and transit incentives for the construction crew. **AQ-6** **Diesel Construction Equipment:** During construction, the Construction Contractor shall use California Air Resources Board (ARB) approved on-road diesel fuel in all diesel construction equipment when available. **AQ-7** **MBUAPCD Dust Minimization Measures:** During construction and in the event that daily watering is insufficient to keep visible dust from blowing, the construction contractor shall implement the following Monterey Bay Unified Air Pollution Control District (MBUAPCD) California Environmental Quality Act (CEQA) Air Quality Guidelines dust minimization measures: • All active construction sites shall be watered at least twice daily. Frequency shall be based on the type of operation, soil, and wind exposure. • All grading activities shall be prohibited during periods of high wind (over 15 miles per hour [mph]). • Chemical soil stabilizers shall be applied on inactive construction areas. Inactive construction areas are defined as disturbed lands within construction projects that are unused for at least four consecutive days. • Nontoxic binders (e.g., latex acrylic copolymer) shall be applied to exposed areas after cut-and-fill operations and to hydroseed areas. • Haul trucks shall maintain at least a 2-foot freeboard. • All trucks hauling dirt, sand, or loose material shall be covered. • In areas adjacent to open land, tree windbreaks shall be planted on the windward perimeter of the construction area. • Vegetative ground cover shall be planted in disturbed areas as soon as possible. • Inactive storage piles shall be covered to prevent wind erosion. • Wheel washers shall be installed at the entrances to construction sites for all exiting trucks. • All roads at the construction site shall be paved. • Streets shall be swept if visible soil material is carried out from the construction site. • A publicly visible sign with the telephone number and person to contact regarding dust complaints shall be posted at the construction site. This person shall respond and take corrective action within 48 hours of a complaint. The phone number of the MBUAPCD shall also be visible to ensure compliance with Rule 402 (nuisance). • The area under construction shall be limited (i.e., grading shall be limited to 6 acres per day).

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
2.15 Noise (NEPA)	**N-1**	**Caltrans Standard Specifications:** During construction, the California Department of Transportation (Caltrans) will require the Construction Contractor to control noise from construction activities in conformance with Caltrans Standard Specification 14-8.02, "Noise Control." In addition, the Construction Contractor shall equip all internal combustion engines with the manufacturer-recommended mufflers and shall not operate any internal combustion engine on the job site without the appropriate muffler.
	N-2	**Monterey County Noise Levels:** Caltrans and/or the County of Monterey will require the Construction Contractors to comply with the allowable noise levels at specified distances from construction activities in accordance with Section 10.60.030 of the Monterey County Code. Section 10.60.030 of the Monterey County Code prohibits the operation of any machine, mechanism, device, or contrivance that produces a noise level exceeding 85 A-weighted decibels (dBA) measured 50 feet (ft) therefrom. If noise from construction equipment exceeds 85 dBA, then attenuation measures must be utilized, including temporary construction barriers and/or quieter equipment. The prohibition in this section shall not apply to aircraft nor to any such machine, mechanism, device, or contrivance that is operated in excess of 2,500 ft from any occupied dwelling unit.
3.4 Noise (CEQA)	**NOI-1**	**Receiver R-22 Noise Barrier:** The County of Monterey Public Works Department shall implement mitigation in the form of a noise barrier at Receptor location R-22 with a minimum height of 12 feet.
	NOI-2	**Interior Noise:** Prior to completion of construction, the County of Monterey Public Works Department shall install, or if necessary improve an existing mechanical ventilation system at Receptor R-21 to ensure future 2040 interior noise levels would meet the State's interior standard of 45 dBA CNEL or below.
2.17 Natural Communities	**NC-1**	**ESA Fencing:** To avoid and minimize impacts to natural communities, Environmentally Sensitive Area (ESA) fencing shall be placed along the edge of the habitat adjacent to the construction area to keep construction equipment and personnel out of the areas occupied by vegetation. A qualified biologist shall aid in the placement of the ESA fencing and shall be on hand to monitor tree removal. No compensatory mitigation is proposed.
	NC-2	**Tree Regeneration:** Natural regeneration shall be augmented by planting cuttings from nursery-grown trees of local provenance. Native riparian trees (e.g., black cottonwoods, red willows, and box elders) shall be planted at a 2:1 ratio (i.e., two trees planted for each tree removed) in the high-flow channel outside the edges of the new bridge deck where they would be exposed to light levels suitable for growth. Planted trees would be protected from beavers by fencing, and a revegetation plan would be developed to monitor survival to Monterey County and/or California Department of Fish and Wildlife (CDFW) specifications.
2.18 Wetlands and Other Waters	**WET-1**	**Native River Soil Material:** If feasible, the Construction Contractor shall ensure that after the completion of pile driving activities, the native river soil material that has been cleaned out of the piles driven to depth shall be reused on site. If the soil composition is not suitable for reuse, the native river soil materials shall be removed from the biological study area (BSA) and deposited at an off-site permitted facility.
	WET-2	**Completion of Construction:** Following the completion of construction, the Construction Contractor shall ensure that the Salinas River Channel is returned to its original contour and condition to the greatest extent possible. All constructed ramps into the Salinas River Channel for the temporary construction access road, construction mats, and other temporary material used for construction shall be removed.
	WET-3	**Construction Equipment:** The Construction Contractor shall ensure that refueling, maintenance, and storage of construction equipment and materials shall take place outside of the Salinas River Channel during all construction activities.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
2.19 Plant Species	**PS-1**	**Coast Live Oak:** The County of Monterey (County) shall retain the services of a qualified arborist who shall assist the construction crew in placing Environmentally Sensitive Area (ESA) fencing around the tree in order to protect it during construction activities.
	PS-2	**Riparian Trees:** To avoid and minimize impacts to riparian trees during construction, the County shall retain the services of a qualified arborist who shall assist construction crews in the placement of ESA fencing at or beyond the drip line of trees or groups of trees adjacent to the work area to delineate a tree protection zone. No construction equipment or storage of construction materials shall be allowed to enter the tree protection zone.
2.20 Animal Species	**AS-1**	**Environmental Training Session:** Before construction begins, a qualified biologist shall conduct an environmental training session for all construction and maintenance personnel. At a minimum, the training shall include a description of the special-status species that may occur in the biological study area (BSA), their habitat requirements, and the measures being implemented to avoid and minimize impacts to these species. The environmental training shall include a discussion of the boundaries behind which the workers and equipment must remain.
	AS-2	**Biological Monitor:** A qualified biologist shall be present at the work site until all ground-disturbing activities and instruction of workers have been completed, after which the Construction Contractor shall designate a monitor who shall ensure on-site compliance with all avoidance and minimization efforts when the qualified biologist is not on site. The qualified biologist shall ensure the monitor is familiar with the avoidance and minimization efforts and able to identify all the special-status species of potential occurrence in the BSA. The monitor and the qualified biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) at any point during construction. If work is stopped, either the qualified biologist or the on-site monitor shall immediately notify the California Department of Transportation (Caltrans) and the County of Monterey. If a federally listed species is found in the work area during construction and a Biological Opinion has not been issued for the project, then the qualified biologist must stop work and immediately notify Caltrans. Caltrans shall then consult with the USFWS or National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and shall then advise the Construction Contractor on how to proceed. Likewise, should a State-listed species be found in the work area for which no incidental take permit has been issued, the County's Project Manager shall then consult with CDFW and shall advise the Construction Contractor on how to proceed.
	AS-3	**ESA Fencing:** Prior to the start of construction in the Salinas River Channel and along the southern edge of Reservation Road, the qualified biologist shall identify locations for the placement of Environmentally Sensitive Area (ESA) fencing as well as an exclusion fence around the work area. The exclusion fence shall be placed along the outer edge of the ESA fencing to prevent terrestrial animals from entering the work area. The exclusion fence shall be staked and buried at least 6 inches into the soil. The approved biologist shall verify the correct placement and installation of the ESA and exclusion fences before work begins in the area.
	AS-4	**Special-Status Species Survey:** Immediately before initial ground disturbance and/or vegetation clearing in the Salinas River Channel, the qualified biologist shall conduct a survey of the work area for special-status species. If special-status species are found, they shall be allowed to leave the work area on their own or, if approved by the USFWS and/or CDFW, the special-status species shall be relocated by the biologist to a safe place outside the work area.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
	AS-5	**River Monitoring:** During vegetation removal, initial grading, and other ground-disturbing activities in the Salinas River Channel, a qualified biologist shall monitor such activities for reptiles and other small wildlife exposed by such activities and then relocate them in a safe place outside the exclusion fence.
	AS-6	**Routes and Boundaries:** Prior to the start of construction, the County of Monterey shall ensure that the number of access routes, the numbers and sizes of staging areas, and the total area of construction activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated both on plans and in the field prior to the start of construction activities.
	AS-7	**Vegetation Removal and Trimming:** The County of Monterey shall ensure that vegetation removal and trimming for the access road and construction areas in the Salinas River Channel would be conducted during the nonbreeding season for birds (i.e., between September 1 and February 14). This shall discourage birds from nesting in construction areas and shall greatly reduce the potential for nesting birds to delay the construction schedule. If vegetation cannot be removed during the nonbreeding season, then preconstruction surveys shall be conducted to avoid impacts to nesting birds.
	AS-8	**Nesting Birds:** If project construction takes place during the bird nesting season (February 15 to August 31), all suitable nesting habitat within 50 feet of the work limits shall be surveyed by a qualified biologist no more than 14 days prior to ground-disturbing/vegetation removal activities and again within 2 days (48 hours) of such activities. Areas outside the public right of way (ROW) shall not be surveyed for active nests unless such areas are visible from the public ROW. If an active nest is found, a qualified biologist shall delineate an appropriate buffer using plastic construction fencing (ESA fencing), pin flags, or other easily identified fencing material. If necessary, the biologist shall consult with the USFWS/CDFW to determine an appropriate buffer size. Typically, buffers range from 25 to 200 feet, depending on the species and the location of the nest. During construction, the qualified biologist shall conduct regular monitoring (at CDFW-approved intervals) to evaluate the nest for potential disturbances associated with construction activities. Construction within the buffer shall be prohibited until the qualified biologist determines the nest is no longer active. If an active nest is found after completion of the preconstruction surveys and after construction begins, all construction activities in the nest vicinity shall stop until a qualified biologist has evaluated the nest and erected an appropriate buffer around the nest. If establishment of the buffer is not feasible, the USFWS/CDFW shall be contacted for further avoidance and minimization guidelines.
	AS-9	**Western Pond Turtle:** During the Salinas River Channel diversion activities, the approved biologist shall monitor the construction activity to ensure no direct impacts occur to turtles. Any turtles observed in the work area shall be captured by hand or with a dip net by the biologist and removed to a safe area downstream of the work area.
	AS-10	**Western Red Bat:** During tree removal, the construction crew shall leave all limbs cut from trees such as red willow, black cottonwood, and/or eucalyptus in place overnight to allow time for bats to leave the trees during the night. A qualified biologist shall be on hand during tree removal to ensure that cut trees are left in place until the following morning.
	AS-11	**Monterey Big-Eared Woodrat:** Before vegetation in the black cottonwood forest and red willow thicket is removed in the area upstream of Davis Road, the area shall be surveyed for woodrat nests by a qualified biologist. If any woodrat nests are located within the work area, they shall be disassembled by hand or with hand tools to allow any woodrats in the nest to move out of the work area. The nest material shall then be moved out of the work area.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures	
2.21 Threatened and Endangered Species	**TE-1**	**River Channelization:** The County of Monterey (County) shall ensure that work within the river (i.e., in and adjacent to water) shall be restricted to the period between June 15 and October 15 to minimize potential impacts to steelhead. During construction, the river would not be dewatered. The river shall be channelized during construction, but the County shall retain a qualified biologist who shall ensure that the channelization shall not restrict flow and shall allow for unrestricted passage of adult and juvenile steelhead through the BSA.
	TE-2	**Pile Driving:** Pile driving in the water will not be required during construction of the Davis Road Bridge. The County shall ensure that pile driving shall be conducted on dry land during periods of low water flow (June 15 to October 15), when steelhead are least likely to be present in the BSA. Because pile driving shall occur only on dry land and during the period when steelhead would least likely be present in the BSA, pile driving is not expected to affect steelhead.
	TE-3	**Programmatic Biological Opinion:** The Davis Road Bridge Replacement and Road Widening Project shall request that the project be appended to the Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (8-8-10-F-58) (PBO). The project will implement all of the avoidance and minimization measures described in the PBO (Appendix F).
2.22 Invasive Species	**IS-1**	**Weed Abatement Program:** During construction, the County of Monterey (County) shall ensure that the Construction Contractor implements a weed abatement program to minimize the importation of nonnative plant material during and after construction. Eradication strategies would need to be employed should an invasion occur. Measures addressing invasive species abatement and eradication shall be included in the project design and contract specifications, and shall be implemented and enforced by the Construction Contractor. At a minimum, this weed abatement program would include the following: • During construction, the Construction Contractor shall inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another. • During construction, soil and vegetation disturbance shall be minimized to the greatest extent feasible. • During construction, the Construction Contractor shall ensure that all active portions of the construction site are watered a minimum of twice a day or more often when needed due to dry or windy conditions to prevent excessive amounts of dust and seed dispersal. • During construction, the Construction Contractor shall ensure that all stockpiled material is sufficiently watered or covered to prevent excessive amounts of dust and seed dispersal. • During construction, soil/gravel/rock shall be obtained from weed-free sources. • All invasive plant material removed from the biological study area (BSA) shall be disposed of properly in a landfill or other suitable facility, where it shall be chipped and composted to prevent spreading viable seeds or propagules that could take root on another site. • Only certified weed-free straw, mulch, and/or fiber rolls shall be used for erosion control. • After construction, impacted areas adjacent to native vegetation shall be revegetated with plant species that are native to the vicinity and approved by the County of Monterey. • After construction, all revegetated areas would avoid the use of species listed in the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory that have a high or moderate rating.

Table D.1 Avoidance, Minimization, and/or Mitigation Measures

Section Number Reference and Resource	Avoidance, Minimization, and/or Mitigation Measures
	• Eradication procedures (e.g., spraying and/or hand weeding) shall be outlined should an infestation occur. The use of herbicides shall be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the County of Monterey. **IS-2** **Removal of Invasive Wildlife:** The County shall develop a program to remove and monitor invasive, nonnative wildlife species during and after construction. Measures addressing invasive species abatement and eradication shall be included in the project design and contract specifications, and shall be implemented and enforced by the Construction Contractor. At a minimum, the program shall include the following: • Nonnative wildlife shall not be returned to the river or any other natural water body. • During project construction, a qualified biologist shall permanently remove individuals of nonnative, invasive wildlife species (e.g., bullfrogs, crayfish, nonnative turtles, and centrarchid fish) from the project area and dispatch them humanely.

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Appendix E State Historic Preservation Office Concurrence Letter

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OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

October 12, 2015 Reply To: FHWA_2015_0612_001

Kelly Hobbs, Chief
Section 106 Coordination Branch
Caltrans, Division of Environmental Analysis
PO Box 942874
Sacramento, CA 94274-0001

Re: Finding of Effect for the Davis Road Bridge Replacement and Road Widening Project, Monterey County, CA

Dear Mr. Hobbs:

You are consulting with me about the subject undertaking in accordance with the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

Monterey County proposes to replace the existing Davis Road Bridge (44C-068) over the Salinas River, and widen the approaches to the bridge along Davis Road, from Reservation Road to Blanco Road, near Salinas. A full project description can be found on page three of the Finding of No Adverse Effect report.

Caltrans has found that the proposed project will have no adverse effect on the Hitchcock-Dolan Farm, CA-MNT-2281H, and CA-MNT-2282H. The project will encroach on the recorded boundary of the Hitchcock-Dolan Farm and convert a 10 feet strip of land into Davis Road frontage. There will still be 50 feet from the farm to the road. This is a minor change and will not detract from the essential physical and character-defining features of the farm. The unexcavated portion of CA-MNT-2281H is assumed eligible for the National Register of Historic Places (NRHP) and will be protected as an Environmentally Sensitive Area (ESA). The entirety of CA-MNT-2282H is assumed eligible for the NRHP and will also be protected as an ESA.

Based on my review of the submitted documentation, I concur with the above finding.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 or email at natalie.lindquist@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

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Appendix F Species List

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 PORTOLA ROAD, SUITE B
VENTURA, CA 93003
PHONE: (805)644-1766 FAX: (805)644-3958

Consultation Code: 08EVEN00-2016-SLI-0056 November 05, 2015
Event Code: 08EVEN00-2016-E-00112
Project Name: Davis Road Bridge Replacement and Road Widening

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve

conflicts with respect to threatened or endangered species or their critical habitat prior to a written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.]

Attachment

Official Species List

Provided by:

Ventura Fish and Wildlife Office
2493 PORTOLA ROAD, SUITE B
VENTURA, CA 93003
(805) 644-1766

Consultation Code: 08EVEN00-2016-SLI-0056
Event Code: 08EVEN00-2016-E-00112

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Name: Davis Road Bridge Replacement and Road Widening
Project Description: Davis Road over the Salinas River, Monterey County, CA

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Monterey, CA

Endangered Species Act Species List

There are a total of 12 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
California red-legged frog *(Rana draytonii)* Population: Entire	Threatened	Final designated	
California tiger Salamander *(Ambystoma californiense)* Population: U.S.A. (Central CA DPS)	Threatened	Final designated	
Santa Cruz Long-Toed salamander *(Ambystoma macrodactylum croceum)* Population: Entire	Endangered		
Birds			
California condor *(Gymnogyps californianus)* Population: Entire, except where listed as an experimental population	Endangered	Final designated	
Least Bell's vireo *(Vireo bellii pusillus)* Population: Entire	Endangered	Final designated	
Southwestern Willow flycatcher *(Empidonax traillii extimus)*	Endangered	Final designated	

Population: Entire			
Crustaceans			
Vernal Pool fairy shrimp *(Branchinecta lynchi)* Population: Entire	Threatened	Final designated	
Flowering Plants			
Contra Costa goldfields *(Lasthenia conjugens)*	Endangered	Final designated	
Marsh Sandwort *(Arenaria paludicola)*	Endangered		
Monterey gilia *(Gilia tenuiflora ssp. arenaria)*	Endangered		
Monterey spineflower *(Chorizanthe pungens var. pungens)*	Threatened	Final designated	
Yadon's piperia *(Piperia yadonii)*	Endangered	Final designated	

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix G Programmatic Biological Opinion

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
81440-2010-F-0382

May 4, 2011

Rich Krumholz, District Director
California Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401-5415

Subject: Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (8-8-10-F-58)

Dear Mr. Krumholz:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion regarding projects funded under the Federal Highway Administration's (FHWA) Federal Aid Program that are likely to adversely affect the federally threatened California red-legged frog (*Rana draytonii*) and its designated critical habitat. This document also contains our programmatic concurrence for projects conducted under the Federal Aid Program that are not likely to adversely affect the California red-legged frog or its critical habitat. The development of this programmatic biological opinion and concurrence are the result of a collaborative effort between the California Department of Transportation (Caltrans) and the Service.

Pursuant to the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the FHWA assigned and Caltrans assumed responsibilities for consultation and coordination with resource agencies for most projects within the state of California (FHWA 2007). The delegation of authority stipulates that correspondence regarding consultations be addressed to Caltrans, even if the FHWA initiated the consultation. Consequently, we have developed this biological opinion in accordance with this direction.

This biological opinion, which has been prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), evaluates the effects of certain activities, authorized by Caltrans, on the California red-legged frog and its critical habitat, within the Ventura Fish and Wildlife Office's area of responsibility in San Benito, Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara, Counties, California. We believe that California red-legged frog populations in Ventura and Los Angeles Counties are so isolated from other California red-legged frog populations, that they do not meet the eligibility criteria described in the Description of the Proposed Action section of this biological opinion (Criterion 4.).

This biological opinion and programmatic concurrence were prepared primarily with information provided by the California Department of Transportation and information in our files. A complete record of this consultation can be made available upon on request.

CONSULTATION HISTORY

Since the listing of the California red-legged frog in 1996, the FHWA, in conjunction with Caltrans, consulted with the Service's Ventura Fish and Wildlife Office on numerous projects that the FHWA determined were likely to adversely affect the California red-legged frog. The FHWA, Caltrans, and the Service recognized that many of these projects resulted in minor effects to the California red-legged frog and its habitat. Additionally, many of the protective measures included in our previous biological opinions were very similar. Consequently, the Service, FHWA, and Caltrans determined that a programmatic approach to the consultation process was appropriate. Staff from the Service's Ventura Fish and Wildlife Office, FHWA, and Caltrans coordinated extensively during the preparation of a programmatic biological opinion we issued to FHWA in 2003 (Service 2003).

The Service designated critical habitat for the California red-legged frog, on March 17, 2010, (75 Federal Register (FR) 12816). The 2003 programmatic biological opinion does not address critical habitat for the California red-legged frog, so any biological opinion tiered from the 2003 programmatic and issued after critical habitat was designated must include a complete analysis of the effects of the proposed action on critical habitat for the California red-legged frog. Therefore, to further streamline the consultation process achieved with the 2003 programmatic, a complete analysis of the effects of the proposed actions on critical habitat for the California red-legged frog is included in this biological opinion.

Since 2003, we have issued 26 biological opinions that are tiered off of our programmatic biological opinion (Service 2003). Construction on 16 of those projects is complete and we have included additional information on those projects in the Environmental Baseline section of this biological opinion. Caltrans and the Service consider this biological opinion a reinitiation of formal consultation on the 14 projects that have not been completed, or where the proposed action would adversely affect critical habitat for the California red-legged frog.

Although we have strived to issue biological opinions tiered from the 2003 programmatic in a much shorter timeframe than required by Federal regulation (50 CFR 402), at times the large number of formal consultations to be completed has limited our ability to provide these documents within expedited timeframes. Therefore, Caltrans and the Service recognize that we could further streamline the 2003 programmatic by avoiding tiered biological opinions, resulting in a more efficient process.

ADMINISTRATION OF THE PROGRAMMATIC BIOLOGICAL OPINION

Caltrans will prepare all required environmental documents for individual projects that would be conducted pursuant to this biological opinion, including those needed to satisfy its

responsibilities under the Act, the National Environmental Policy Act, and the California Environmental Quality Act.

For all proposed actions that Caltrans determine are likely to adversely affect the California red-legged frog or its critical habitat, Caltrans will consider whether the action:

1. Meets the suitability criteria, as described in the Description of the Proposed Action section of this biological opinion; and

2. Whether the proposed activities and anticipated effects to California red-legged frogs fall within the scope of this biological opinion.

At least 90 days prior to conducting any activities that it determines are likely to adversely affect the California red-legged frog or its critical habitat, Caltrans will notify the Ventura Fish and Wildlife Office, in writing, of projects they propose to conduct under the auspices of this biological opinion. If the Service determines that use of this programmatic biological opinion is not appropriate for the proposed action, we will notify Caltrans in writing within 30 days, and the standard provisions for section 7 consultation will apply. The regulations which implement section 7 allow the Service up to 90 days to conclude formal consultation and an additional 45 days to prepare our biological opinion. If we require additional information to complete our biological opinion, we will describe our needs in our letter; if additional information is not required, we will consider consultation to have been initiated on the date we received the original notification of Caltrans' intent to conduct their proposed project pursuant to the programmatic consultation.

At a minimum, the following information will accompany Caltrans' project notification to the Service:

1. A 7.5-minute topographic map (and aerial photographs if possible) of the proposed project site, as well as photographs of the project site;

2. A written description of the activity, including, but not limited to, construction methods, time of year the work would occur, a habitat restoration plan, and a construction monitoring plan;

3. One cross-section and a minimum of one plan view indicating water bodies, vegetation types, work areas, roads (including temporary construction access roads), restoration sites, refueling and staging areas that will be located within the existing or proposed public right-of-way or temporary construction easements, and environmentally sensitive areas proposed to protect habitat of the California red-legged frog;

4. The names and credentials of biologists who will conduct surveys for, monitor, and handle California red-legged frogs will be provided to the Service 30 days prior to the start of construction. Once the Service approves a biologist, Caltrans would not need to

provide their credentials for subsequent projects conducted pursuant to this consultation; and

5. Information resulting from any site visits, surveys, or habitat assessments conducted for the proposed action.

By January 31 of each year this consultation is in effect, Caltrans will provide to the Service's Ventura Fish and Wildlife Office, a list of projects for which it used this consultation. Caltrans will provide sufficient information on the list to identify the projects that occurred in the previous year under the provisions of this biological opinion. The annual list will assist the Ventura Fish and Wildlife Office in ensuring that it has received the required Project Completion Reports that are described later in this document. Caltrans may also use the occasion of providing the list to recommend changes to the consultation that are more protective of the California red-legged frog and its habitat while simplifying compliance with the Act.

ADMINISTRATION OF THE PROGRAMMATIC INFORMAL CONSULTATION

For all proposed actions that Caltrans determines may affect, but are not likely to adversely affect, the California red-legged frog or its critical habitat, Caltrans will determine if the proposed action meets the suitability criteria for our programmatic concurrence, as described in the Description of the Proposed Action section of this biological opinion. If Caltrans determines the proposed action meets the suitability criteria for concurrence, it will notify our office in writing, at least 30 days prior to the start of construction. We will review Caltrans' notification and respond in in writing, or via electronic mail, if we have concerns or questions regarding the proposed action, or if we have any additional information that we believe may influence Caltrans' determination.

At a minimum the following information will accompany the notification:

1. Caltrans must include a rationale in its notification to us, as to how adverse effects to the California red-legged frog and its critical habitat will be avoided.

2. A 7.5-minute topographic map and aerial photographs of the project site, as well as photographs of the project site. The location of the project, any restoration sites, and all known locations of California red-legged frogs within 2 miles of the project site will be identified on the map and photographs;

3. A written description of the activity, including, but not limited to, construction methods, avoidance measures in addition to those required under this programmatic biological opinion, time of year the work would occur, habitat restoration plans, and construction monitoring plans;

4. One cross-section and a minimum of one plan view indicating water bodies, vegetation types, work areas, roads (including temporary construction access roads), restoration

sites, refueling and staging areas that will be located within the existing or proposed public right-of-way or temporary construction easements, and Environmentally Sensitive Areas proposed to protect habitat of the California red-legged frog; and

5. The results of information gathered by following the procedures in the Service's guidance for assessing habitat quality and field surveys for the California red-legged frog.

Staff from the Service's Ventura Fish and Wildlife Office will be available to provide technical assistance during all phases of consultation. Technical assistance can include assisting Caltrans with determinations of effects, development of project-specific designs and protective measures, modifications of survey protocols, and any other issues that may arise. Technical assistance may be transmitted by the Service in the form of telephone calls, electronic mail, or written correspondence.

BIOLOGICAL OPINION

ANALYTICAL FRAMEWORK FOR THE JEOPARDY AND ADVERSE MODIFICATION DETERMINATIONS

Jeopardy Determination

The jeopardy analysis in this biological opinion relies on four components: (1) the *Status of the Species*, which evaluates the range-wide condition of the California red-legged frog, the factors responsible for that condition, and the species' survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the California red-legged frog in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the California red-legged frog; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the California red-legged frog; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the California red-legged frog.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed federal action in the context of the current status of the California red-legged frog, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the California red-legged frog.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of the California red-legged frog and the role of the action area in the survival and recovery of the subspecies as the context for evaluation of the significance of the effects of the proposed federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Adverse Modification Determination

This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied on the statutory provisions of the ESA to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which evaluates the range-wide condition of designated critical habitat for the California red-legged frog in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the critical habitat overall; (2) the *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated and interdependent activities on the PCEs and how that will influence the recovery role of the affected critical habitat units; and (4) *Cumulative Effects*, which evaluates the effects of future non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed federal action on the critical habitat of the California red-legged frog are evaluated in the context of the range-wide condition of the critical habitat, taking into account any cumulative effects, to determine if the critical habitat range-wide would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the California red-legged frog.

The analysis in this biological opinion places an emphasis on using the intended range-wide recovery function of critical habitat for the California red-legged frog and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the adverse modification determination.

DESCRIPTION OF THE PROPOSED ACTION

Eligibility Criteria for the Programmatic Biological Opinion

To make use of this programmatic biological opinion, the Caltrans must ensure that a proposed project satisfies the following criteria:

Criterion 1: Actions that would be appropriately considered in this biological opinion are likely to result in adverse effects to the California red-legged frog and its critical habitat, but would not affect the long-term viability of the population in the action area Caltrans and the Service have previously consulted on numerous projects that met these criteria. These projects include: retrofitting of bridges to reduce damage that may be caused by earthquakes; repair, widening,

and replacement of bridges; repair of stream bank protection; replacement of low-flow stream crossings with bridges; small-scale stabilization of stream slopes; minor improvement of drainage; replacement of culverts; rehabilitation of highway surfaces; and improvement of the safety and operation of highways.

Criterion 2: To qualify for use of this programmatic biological opinion, the measures to reduce or avoid adverse effects to the California red-legged frog and its critical habitat, provided herein, must be implemented; these measures may be modified on a project-specific basis upon the agreement of the Caltrans and the Service.

Criterion 3: The projects must be single and complete, and not part of larger actions or associated with other development projects including, but not limited to, housing subdivisions, commercial or industrial developments, or golf courses.

Criterion 4: The projects must not, in the Service's view, take place in areas where populations of California red-legged frogs are so isolated that even the small effects described in this biological opinion may have substantial impacts.

Minimization of Adverse Effects

Caltrans will ensure that projects implemented in accordance with this biological opinion will be designed to avoid or minimize adverse effects to the California red-legged frog and its critical habitat. At a minimum, the following measures will be incorporated into the projects:

1. Only Service-approved biologists will participate in activities associated with the capture, handling, and monitoring of California red-legged frogs. Biologists authorized under this biological opinion do not need to re-submit their qualifications for subsequent projects conducted pursuant to this biological opinion, unless we have revoked their approval at any time during the life of this biological opinion.

2. Ground disturbance will not begin until written approval is received from the Service that the biologist is qualified to conduct the work, unless the individual(s) has/have been approved previously and the Service has not revoked that approval.

3. A Service-approved biologist will survey the project site no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist will be allowed sufficient time to move them from the site before work begins. The Service-approved biologist will relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and that will not be affected by activities associated with the proposed project. The relocation site should be in the same drainage to the extent practicable. Caltrans will coordinate with the Service on the relocation site prior to the capture of any California red-legged frogs.

4. Before any activities begin on a project, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

5. A Service-approved biologist will be present at the work site until all California red-legged frogs have been relocated out of harm's way, workers have been instructed, and disturbance of habitat has been completed. After this time, the State or local sponsoring agency will designate a person to monitor on-site compliance with all minimization measures. The Service-approved biologist will ensure that this monitor receives the training outlined in measure 4 above and in the identification of California red-legged frogs. If the monitor or the Service-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and the Service during review of the proposed action, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation by eliminating the adverse effect immediately or require that all actions causing these effects be halted. If work is stopped, the Service will be notified as soon as possible.

6. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

7. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet from riparian habitat or water bodies and in a location from where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water). The monitor will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

8. Habitat contours will be returned to their original configuration at the end of project activities. This measure will be implemented in all areas disturbed by activities associated with the project, unless the Service and Caltrans determine that it is not feasible or modification of original contours would benefit the California red-legged frog.

9. The number of access routes, size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goals. Environmentally Sensitive Areas will be delineated to confine access routes and

construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

10. Caltrans will attempt to schedule work activities for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain California red-legged frogs through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and coordination between Caltrans and the Service during project planning will be used to assist in scheduling work activities to avoid sensitive habitats during key times of the year.

11. To control sedimentation during and after project implementation, Caltrans, and the sponsoring agency will implement best management practices outlined in any authorizations or permits issued under the authorities of the Clean Water Act that it receives for the specific project. If best management practices are ineffective, Caltrans will attempt to remedy the situation immediately, in coordination with the Service.

12. If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the stream bed will be minimized to the maximum extent possible; any imported material will be removed from the stream bed upon completion of the project.

13. Unless approved by the Service, water will not be impounded in a manner that may attract California red-legged frogs.

14. A Service-approved biologist will permanently remove any individuals of non-native species, such as bullfrogs (*Rana catesbeiana*), signal and red swamp crayfish (*Pacifasticus leniusculus; Procambarus clarkii*), and centrarchid fishes from the project area, to the maximum extent possible. The Service-approved biologist will be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.

15. If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.

16. To ensure that diseases are not conveyed between work sites by the Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times. A copy of the code of practice is enclosed.

17. Project sites will be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. This measure will be implemented in all areas disturbed by activities associated with the project, unless the Service and Caltrans determine that it is not feasible or practical.

18. Caltrans will not use herbicides as the primary method used to control invasive, exotic plants. However, if Caltrans determines the use of herbicides is the only feasible method for controlling invasive plants at a specific project site, it will implement the following additional protective measures for the California red-legged frog:

    a. Caltrans will not use herbicides during the breeding season for the California red-legged frog;

    b. Caltrans will conduct surveys for the California red-legged frog immediately prior to the start of any herbicide use. If found, California red-legged frogs will be relocated to suitable habitat far enough from the project area that no direct contact with herbicides would occur;

    c. Giant reed and other invasive plants will be cut and hauled out by hand and the painted with glyphosate or glyphosate-based products, such as Aquamaster® or Rodeo®;

    d. Licensed and experienced Caltrans staff or a licensed and experienced contractor will use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site;

    e. All precautions will be taken to ensure that no herbicide is applied to native vegetation.

    f. Herbicides will not be applied on or near open water surfaces (no closer than 60 feet from open water).

    g. Foliar applications of herbicide will not occur when wind speeds are in excess of 3 miles per hour.

    h. No herbicides will be applied within 24 hours of forecasted rain.

i. Application of all herbicides will be done by a qualified Caltrans staff or contractors to ensure that overspray is minimized, that all application is made in accordance with label recommendations, and with implementation of all required and reasonable safety measures. A safe dye will be added to the mixture to visually denote treated sites. Application of herbicides will be consistent with the U.S. Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins.

j. All herbicides, fuels, lubricants, and equipment will be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Caltrans will ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

19. Upon completion of any project for which this programmatic consultation is used, Caltrans will ensure that a Project Completion Report is completed and provided to the Ventura Fish and Wildlife Office. A copy of the form is enclosed. Caltrans should include recommended modifications of the protective measures if alternative measures would facilitate compliance with the provisions of this consultation. In addition, Caltrans will reinitiate formal consultation in the event any of the following thresholds are reached as a result of projects conducted under the provisions of this consultation:

Caltrans will reinitiate consultation when, as a result of projects conducted under the provisions of this consultation:

a. 10 California red-legged frog adults or juveniles have been killed or injured in any given year. (For this and all other standards, an egg mass is considered to be one California red-legged frog.);

b. 50 California red-legged frogs have been killed or injured in total;

c. 20 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in any given year;

d. 100 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in total;

e. 100 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been temporarily disturbed in any given year; or

f. 500 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been temporarily disturbed in total.

Total acreages of dispersal habitat that may be adversely affected would be confined to the Caltrans or County rights-of-way that occur adjacent to roads, and would be linear in nature. Dispersal habitat for the California red-legged frog adjacent to roads and highways, within these rights-of-way, is generally less ecologically valuable to the California red-legged frog than larger blocks of habitat. Road corridors and associated disturbances may lead to reduced habitat quality resulting in decreased abundance or density of breeding individuals (Forman et al. 2003).

PROGRAMMATIC INFORMAL CONSULTATION

In addition to the numerous formal consultations we have conducted with Caltrans, we have also conducted many informal consultations and concurred that many of Caltrans' proposed projects are not likely to adversely affect the California red-legged frog or its critical habitat. Many of these projects are very similar to the type of projects we are considering in the subject formal consultation (e.g., bridge and culvert replacements). Because many of the avoidance measures associated with our previous concurrences are very similar, and we are often working on multiple concurrence letters simultaneously, Caltrans and the Service believe a programmatic approach to projects that are not likely to adversely affect the California red-legged frog or its critical habitat is appropriate.

Criteria for the Programmatic Concurrence

Projects that are not likely to adversely affect the California red-legged frog, or its critical habitat, must have only discountable, insignificant, or completely beneficial effects to the subspecies and its critical habitat. The Services (1998) defines the term discountable as extremely unlikely and unexpected; the term insignificant relates to the size of the impact (i.e., unable to meaningfully measure, detect, or evaluate). To make use of this programmatic informal consultation for actions that may affect, but are not likely to adversely affect the California red-legged frog or its critical habitat, Caltrans must demonstrate that the project satisfies the following criteria:

Criterion 1: California red-legged frogs are not known to occur at the proposed project site and were not found during surveys following the Guidelines for surveys and habitat assessments (Service 2007); however, the potential may exist for individuals to occur at the proposed project site because no barriers exist to preclude dispersal of California red-legged frog from nearby suitable habitat.

Criterion 2: Any effects to critical habitat must be discountable, insignificant, or completely beneficial to the California red-legged frog.

Criterion 3: The measures to avoid adverse effects to the California red-legged frog and its critical habitat, provided herein, must be implemented; these measures may be modified on a

project-specific basis to achieve avoidance of adverse effects upon the agreement of Caltrans and the Service.

Measures to Avoid Adverse Effects

For projects to qualify for the programmatic concurrence, at a minimum Caltrans will ensure that the following measures are implemented to avoid adverse effects to the California red-legged frog and its critical habitat:

1. A biologist with experience in the identification of all life stages of the California red-legged frog, and its critical habitat (75 FR 12816), will survey the project site no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is detected the Service will be notified prior to the start of construction. If Caltrans and the Service determine that adverse effects to the California red-legged frog or its critical habitat cannot be avoided, the proposed project will not commence until the Caltrans completes the appropriate level of consultation with the Service.

2. Work activities will take place during the dry season, between April 1 and November 1, when water levels are typically are at their lowest, and California red-legged frogs are likely to be more detectable. Should activities need to be conducted outside of this period, Caltrans may conduct or authorize such activities after obtaining the Service's written approval.

3. Before work begins on any proposed project, a biologist with experience in the ecology of the California red-legged frog, as well as the identification of all its life stages, will conduct a training session for all construction personnel, which will include a description of the California red-legged frog, its critical habitat, and specific measures that are being implemented to avoid adverse effects to the subspecies during the proposed project.

4. If any life stage of the California red-legged frog is detected in the project area during construction, work will cease immediately and the resident engineer, authorized biologist, or biological monitor will notify the Ventura Fish and Wildlife Office via telephone or electronic mail. If Caltrans and the Service determine that adverse effects to California red-legged frogs cannot be avoided, construction activities will remain suspended until Caltrans and the Service complete the appropriate level of consultation.

5. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

6. Prior to the onset of work, Caltrans will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to implement should a spill occur.

7. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet from aquatic or riparian habitat and not in a location from where a spill would drain directly toward aquatic habitat. The monitor will ensure contamination of aquatic or riparian habitat does not occur during such operations by implementing the spill response plan described in measure 6.

8. Plants used in re-vegetation will consist of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. This measure will be implemented in all areas disturbed by activities associated with the project, unless Caltrans and the Service determine that it is not feasible or practical.

9. Habitat contours will be returned to their original configuration at the end of project activities in all areas that have been temporarily disturbed by activities associated with the project, unless Caltrans and the Service determine that it is not feasible or modification of original contours would benefit the California red-legged frog.

10. The number of access routes, size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goals. Environmentally Sensitive Areas will be delineated to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to habitat for the California red-legged frog; this goal includes locating access routes and construction areas outside of aquatic habitat and riparian areas to the maximum extent practicable.

11. To control sedimentation during and after project implementation, Caltrans will implement best management practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act that it receives for the specific project. If best management practices are ineffective, Caltrans will attempt to remedy the situation immediately, in coordination with the Service.

12. If a work site is to be temporarily dewatered by pumping, the intake will be screened with wire mesh not larger than 0.2 inch to prevent any California red-legged frogs not initially detected from entering the pump system. If California red-legged frogs are detected during dewatering, and adverse effects to California red-legged frogs cannot be avoided, construction activities will remain suspended until Caltrans and the Service complete the appropriate level of consultation.

13. Upon completion of construction activities, any diversions or barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the creek bed will be minimized to the maximum extent possible; any imported material will be removed from the stream bed upon completion of the project.

14. Unless approved by the Service, water will not be impounded in a manner that may attract California red-legged frogs.

15. A qualified biologist will permanently remove any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes from the project area, to the maximum extent possible. The biologist will be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.

16. To ensure that diseases are not conveyed between work sites by the Service-approved biologist, the enclosed fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.

This concurrence is based on the proposed avoidance measures, as well as the other criteria that a specific project must meet to qualify for use of this informal consultation. This concurrence does not authorize capture, handling, or relocation of California red-legged frogs. If at any time Caltrans determines: 1) their proposed action is likely to adversely affect the California red-legged frog or its critical habitat; and 2) the proposed project meets criteria for the programmatic biological opinion, Caltrans should notify our office immediately. If Caltrans is able to adhere to the protective measures described previously in the programmatic biological opinion, the work may continue and Caltrans will notify the Service in writing that they are proceeding with the project under the programmatic biological opinion. If at any time Caltrans or the Service conclude that the proposed action does not meet the suitability criteria for the programmatic biological opinion, all work must cease until the appropriate level of consultation has been completed.

STATUS OF THE SPECIES/CRITICAL HABITAT

California red-legged frog

The California red-legged frog was federally listed as threatened on May 23, 1996 (61 FR 25813). The Service has published a recovery plan (Service 2002).

The historical range of the California red-legged frog extended coastally from southern Mendocino County and inland from the vicinity of Redding, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985; Storer 1925). The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this species was found throughout the Central Valley and Sierra Nevada foothills. Four additional occurrences have been recorded in the Sierra Nevada foothills since listing, bringing the total to five extant populations, compared to approximately 26 historical records (71 FR 19244). Currently, California red-legged frogs are only known from 3 disjunct regions in 26 California counties and 1 disjunct region in Baja California, Mexico (Grismer 2002; Fidenci 2004; R. Smith and D. Krofta, in litt. 2005).

California red-legged frogs have been found at elevations that range from sea level to about 5,000 feet. In the Sierra Nevada Mountains, California red-legged frogs typically occur below 4,000 feet and occurrences above this elevation are atypical for the subspecies (71 FR 19244).

The California red-legged frog uses a variety of habitat types, including various aquatic systems, riparian, and upland habitats. The diet of California red-legged frogs is highly variable. Hayes and Tennant (1985) found invertebrates to be the most common food item of adults. Vertebrates, such as Pacific chorus frogs (*Pseudacris regilla*) and California mice (*Peromyscus californicus*), represented over half of the prey mass eaten by larger frogs (Hayes and Tennant 1985). Feeding activity occurs along the shoreline and on the surface of the water. Hayes and Tennant (1985) found juveniles to be active diurnally and nocturnally, whereas adults were largely nocturnal.

California red-legged frogs breed from November through March; earlier breeding has been recorded in southern localities (Storer 1925). Males appear at breeding sites from 2 to 4 weeks before females (Storer 1925). Female California red-legged frogs deposit egg masses on emergent vegetation so that the masses float on the surface of the water (Hayes and Miyamoto 1984). Egg masses contain about 2,000 to 5,000 moderate-sized, dark reddish brown eggs (Storer 1925; Jennings and Hayes 1985). Eggs hatch in 6 to 14 days (Storer 1925). Larvae undergo metamorphosis 3.5 to 7 months after hatching (Storer 1925; Wright and Wright 1949). Sexual maturity can be attained at 2 years of age by males and 3 years of age by females (Jennings and Hayes 1985); adults may live 8 to 10 years (Jennings et al. 1992) although the average life span is considered to be much lower. The California red-legged frog is a relatively large aquatic frog ranging from 1.5 to 5 inches from the tip of the snout to the vent (Stebbins 1985).

California red-legged frogs breed in aquatic habitats. Larvae, juveniles and adults have been collected from streams, creeks, ponds, marshes, plunge pools and backwaters within streams, dune ponds, lagoons, and estuaries. California red-legged frogs frequently breed in artificial impoundments, such as stock ponds, if conditions are appropriate. Although California red-legged frogs successfully breed in streams and riparian systems, high spring flows and cold temperatures in streams often make these sites risky environments for eggs and tadpoles. The importance of riparian vegetation for this species is not well understood. When riparian vegetation is present, California red-legged frogs spend considerable time resting and feeding in it; the moisture and camouflage provided by the riparian plant community likely provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding.

Juvenile and adult California red-legged frogs may disperse long distances from breeding sites throughout the year. They can be encountered living within streams at distances exceeding 1.8 miles from the nearest breeding site, and have been found up to 400 feet from water in adjacent dense riparian vegetation (Bulger et. al 2003). During periods of wet weather, starting with the first rains of fall, some individuals may make overland excursions through upland habitats. Most of these overland movements occur at night. Bulger et al. (2003) found marked California red-legged frogs in Santa Cruz County making overland movements of up to 2 miles over the course

of a wet season. These individual frogs were observed to make long-distance movements that are straight-line, point to point migrations over variable upland terrain rather than using riparian corridors for movement between habitats. For the California red-legged frog, suitable habitat is potentially all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture (61 FR 25813).

Habitat loss and alteration, combined with over-exploitation and introduction of exotic predators, were important factors in the decline of the California red-legged frog in the early to mid-1900s. Continuing threats to the California red-legged frog include direct habitat loss due to stream alteration and loss of aquatic habitat, indirect effects of expanding urbanization, competition or predation from non-native species including the bullfrog, catfish (*Ictalurus* spp.), bass (*Micropterus* spp.), mosquito fish (*Gambusia affinis*), red swamp crayfish, and signal crayfish. Chytrid fungus (*Batrachochytrium dendrobatidis*) is a waterborne fungus that can decimate amphibian populations, and is considered a threat to California red-legged frog populations.

Critical Habitat for the California Red-legged Frog

On March 17, 2010, the Service designated critical habitat for the California red-legged frog (75 FR 12816). In total, 1,636,609 million acres was designated as critical habitat for the California red-legged frog in 27 California counties. The current designation better reflects the lands containing those essential habitat features necessary for the conservation of the California red-legged frog than did earlier designations that had been subject to litigation. A detailed discussion of the methods used in developing proposed critical habitat can be found in the final rule (75 FR 12816).

We have identified the physical or biological features essential to the conservation of the species, the Primary Constituent Elements (PCEs), that may require special management considerations or protection. Because not all life-history functions require all the PCEs, not all areas designated as critical habitat will contain all the PCEs. Based on our current knowledge of the life-history, biology, and ecology of the California red-legged frog, we determined the California red-legged frog's PCEs to consist of: 1) aquatic breeding habitat; 2) aquatic non-breeding habitat; 3) upland habitat;, and 4) dispersal habitat. Detailed descriptions of these PCEs can be found in the final rule (75 FR 12816). The following is a brief summary of the PCEs:

1) Aquatic breeding habitat consists of standing bodies of fresh water (with salinities less than 4.5 part per thousand), including natural and manmade (stock) ponds, slow moving streams or pools within streams and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years.

2) Aquatic non-breeding habitat consists of the freshwater habitats as described for aquatic breeding habitat but which may or may not hold water long enough for the subspecies to complete the aquatic portion of its lifecycle but which provide for shelter, foraging,

predator avoidance, and aquatic dispersal habitat of juvenile and adult California red-legged frogs.

3) Upland habitat consists of upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of one mile in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the California red-legged frog. Upland habitat should include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter.

4) Dispersal habitat consists of accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within one mile of each other, and that support movement between such sites. Dispersal habitat includes various natural habitats, and altered habitats such as agricultural fields, that do not contain barriers (e.g., heavily traveled roads without bridges or culverts) to dispersal. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, nor does it include large lakes or reservoirs over 50 acres in size, or other areas that do not contain those features identified in PCE 1, 2, or 3 as essential to the conservation of the species.

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For the purposes of this biological opinion, we consider the action area to include the areas within Santa Cruz, San Benito Monterey, San Luis Obispo, Santa Barbara Counties that support the California red-legged frog, or its critical habitat, and that have the potential to be affected directly or indirectly by federally-funded projects. Caltrans projects that would be appropriately conducted pursuant to this biological opinion would occur within the Caltrans or County rights-of-way. Based on the anticipated impacts of the 26 projects we have consulted on and the documented effects of the 15 projects that Caltrans has completed under our previous programmatic biological opinion (Service 2003), we are not aware of any indirect effects which extend beyond the Caltrans or County right-of-way. Therefore, we assume the area within the right-of-way of each of the projects conducted pursuant to this programmatic biological opinion will encompass the direct and indirect effects of the proposed action.

All or portions of the following three recovery units (as defined in the Recovery Plan for the California red-legged frog (Service 2002) are included in the action area:

The Central Coast Recovery Unit includes, generally, the coastal portions of Santa Cruz, Monterey, and San Luis Obispo Counties. This recovery unit supports the greatest number of drainages currently occupied by the California red-legged frog.

The Diablo Range and Salinas Valley Recovery Unit includes, generally, San Benito County and the inland portions of Santa Cruz, Monterey, and San Luis Obispo Counties. This recovery unit supports "no more than 10 percent of the historic localities (of the California red-legged frog) within the Salinas basin and inner Coast Ranges " (Service 2002). Santa Barbara County and portions of San Luis Obispo Counties are within the Northern Transverse Ranges and Tehachapi Mountains Recovery Unit. California red-legged frogs are patchily distributed in the interior portion of this recovery unit and occur in numerous coastal streams in Santa Barbara County.

From April 2003 through June 2010, we issued 26 biological opinions that were tiered off of our previous programmatic biological opinion with FHWA (Service 2003). Under those 26 biological opinions we authorized the incidental take of 34 California red-legged frogs in the form of injury or mortality. Five tiered biological opinions authorized the incidental take of two California red-legged frogs, one biological opinion authorized the incidental take of four California red-legged frogs, and 20 biological opinions authorized the incidental take of one California red-legged frog.

Based on the information contained in the requests for consultation, we calculated the amount of aquatic and upland habitats that we estimate will be permanently lost and temporarily disturbed when construction of these projects has been completed (Appendix 1).

Construction has been completed on 15 projects (Appendix 2) that were conducted under the programmatic biological opinion (Service 2003). No California red-legged frogs were injured or killed during construction of these 15 projects. Five of the Project Completion Reports for these 15 projects did not include the amount of wetland or upland habit impacts. Of the 10 other completed projects, none exceeded the reinitiation thresholds identified in our 2003 programmatic biological opinion (Service 2003).

Critical Habitat

Because our previous programmatic biological opinion (Service 2003) did not address critical habitat, the Project Completion Reports associated with that biological opinion do not include the amount of critical habitat affected by each completed project in terms of the PCEs. Instead, the Project Completion Reports require that the amount of wetland and riparian habitat temporarily and permanently affected by a project be reported. We interpret the amount of wetland habitat affected by a project to include either breeding, non-breeding habitat, or both, and the riparian habitat component to include upland habitat and/or dispersal habitat. The amount of critical habitat for the California red-legged frog that has been adversely affected as a result of the 15 completed projects consists of: 0.033-acre of aquatic habitat for the California red-legged frog that was permanently lost and 0.1-acre that was temporarily disturbed; 0.20-acre of upland habitat that were permanently lost and 0.12-acre that were temporarily disturbed.

Nineteen critical habitat units may be adversely affected by actions conducted pursuant to this biological opinion. These critical habitat units occur in Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara Counties. The physical and biological features important to the

conservation of the California red-legged frog are included in the following descriptions from the final rule 75(FR) 12816:

SCZ-1, North Coastal Santa Cruz County

This unit consists of approximately 72,249 acres of land and is located along the coastline of northern Santa Cruz County, plus a small area in southern San Mateo County, from approximately Green Oaks Creek to Wilder Creek. The unit includes the following watersheds: Green Oaks Creek, Waddell Creek, East Waddell Creek, Scott Creek, Big Creek, Little Creek, San Vicente Creek, Laguna Creek, and Majors Creek. The unit is mapped from occurrences recorded at the time of listing and subsequent to the time of listing and is currently occupied. SCZ-1 contains the features that are essential for the conservation of the species. The unit also contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). SCZ-1 provides connectivity between occupied sites along the coast and farther inland. In addition, it contains high-quality habitat, indicated by high density of extant occurrences, permanent and ephemeral aquatic habitat suitable for breeding, and accessible upland areas for dispersal, shelter, and food. The unit represents one of two areas designated for critical habitat in Santa Cruz County and is the northern extent of the central coast recovery unit.

The physical and biological features essential to the conservation of California red-legged frog in the SCZ-1 unit may require special management considerations or protection due to water diversions, which may alter aquatic habitats and thereby result in the direct or indirect loss of egg masses, juveniles, or adults.

SCZ-2, Watsonville Slough

This unit consists of approximately 4,057 acres of land and is located along the coastal plain in southern Santa Cruz County, north of the mouth of the Pajaro River and seaward of California Highway 1. It includes locations in the Watsonville Slough system, including all or portions of Gallighan, Hanson, Harkins, Watsonville, Struve, and the West Branch of Struve sloughs. The unit includes portions of the Corralitos Lagoon and Mouth of the Pajaro River watersheds. The unit is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. SCZ-2 contains the features that are essential for the conservation of the species. This unit is currently occupied, and contains permanent and ephemeral aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and contains upland habitat for foraging, dispersal activities, and shelter (PCE 3 and PCE 4). SCZ-2 also provides connectivity between occupied sites along the coast and farther inland.

The physical and biological features essential to the conservation of California red-legged frog in the SCZ-2 unit may require special management considerations or protection due predation by nonnative species, and due to urbanization and the presence of introduced invasive plants, both of which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

MNT-1, Elkhorn Slough

This unit consists of approximately 519 acres of land and is located along the coastal plain in northern Monterey County, inland from the town of Moss Landing, and it is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. This unit is currently occupied. The unit includes the eastern edge of the Elkhorn Slough watershed and the western edge of the Strawberry Canyon watershed. MNT-1 contains the features that are essential for the conservation of the species. This unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). The designation of MNT-1 is expected to prevent further fragmentation of habitat in this portion of the species' range, contains permanent and ephemeral aquatic habitats suitable for breeding, and contains upland areas for dispersal, shelter, and food. We have determined that these attributes are essential to the conservation of the species. Elkhorn Slough is unique in that it is a large estuary/freshwater slough system not typically found on the California coast. The unit consists entirely of private land.

The physical and biological features essential to the conservation of California red-legged frog in the MNT-1 unit may require special management considerations or protection due to pesticide exposure, trematode infestation, disease, and predation by nonnative species, which may affect aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

MNT-2, Carmel River

This unit consists of approximately 119,492 acres of land, is located south and southeast of the city of Monterey, and includes locations in the Carmel River drainage and nearby San Jose Creek. The unit includes the following watersheds and portions of watersheds: the southern portion of Carmel Bay, Carmel Valley, Robinson Canyon, San Jose Creek, Las Garces Creek, Hitchcock Canyon, the western portion of Lower Tularcitos Creek, Klondike Canyon, Black Rock Creek, Pine Creek, Danish Creek, Cachagua Creek, Lower Finch Creek, Bear Canyon, Bruce Fork, and Miller Canyon. It is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. MNT-2 contains the features that are essential for the conservation of the species. The unit is currently occupied and contains permanent and ephemeral aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging, dispersal activities, and shelter (PCE 3 and PCE 4). The unit is the largest designated within Monterey County.

The physical and biological features essential to the conservation of California red-legged frog in the MNT-2 unit may require special management considerations or protection due to predation by nonnative species, urbanization, and water pumping and diversions, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

MNT-3, Big Sur Coast

This unit consists of approximately 27,542 acres of land; is located along the Big Sur coastline in Monterey County, approximately from the mouth of the Little Sur River south to McWay Canyon; and includes locations in and around the Big Sur River drainage. The unit includes the following watersheds: Point Sur, Big Sur River, Ventana Creek, Sycamore Canyon, and Partington Creek. This unit was not known to be occupied at the time of listing, but surveys conducted subsequent to the time of listing show that this unit is currently occupied. Based on life history and population dynamics of the species we have determined that the area was most likely occupied at the time of listing. MNT-3 is essential for the conservation of the species because it contains the largest coastal habitat within Monterey Bay region and provides for connectivity to more interior units further north. MNT-3 also contains permanent and ephemeral aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging, dispersal activities, and shelter (PCE 3 and PCE 4). MNT-3 is currently occupied by the species.

The physical and biological features essential to the conservation of California red-legged frog in the MNT-3 unit may require special management considerations or protection due to predation by non-native species, urbanization, and water pumping and diversions, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

SNB-1, Hollister Hills/San Benito River

This unit consists of approximately 36,294 acres of land and is located in northwestern San Benito County in the San Benito River drainage. The unit includes the following watersheds and portions of watersheds: the southern portions of San Justo Reservoir, Northeast Hollister Hills, and Upper Bird Creek; Left Fork Bird Creek; Sulfur Canyon; and the western portions of Arroyo Hondo, Willow Grove School, Paicines Ranch, and Lower Pescadero Creek. It is mapped from occurrences recorded at the time of listing and subsequent to the time of listing near Saint Frances Retreat, San Juan Oaks, Azalea Canyon, Bird Creek, Hollister Hills State Vehicle Recreation Area, Paicines Reservoir, and Tres Pinos Creek. SNB-1 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). SNB-1 also provides essential connectivity between sites on the coast plain and inner Coast Range. SNB-1 is occupied by the species, is expected to prevent further fragmentation of habitat in this portion of the species' range, and contains permanent and ephemeral aquatic habitats suitable for breeding and accessible upland areas for dispersal, shelter, and food.

The physical and biological features essential to the conservation of California red-legged frog in the SNB-1 unit may require special management considerations or protection due to predation by nonnative species, and habitat disturbance, which may alter aquatic and upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

SNB-2, Antelope Creek/Upper Tres Pinos Creek

This unit consists of approximately 17,356 acres of land and is located in central San Benito County along the Tres Pinos Creek drainage within the Antelope Creek watershed. This unit was not known to be occupied at the time of listing, but surveys conducted subsequent to the time of listing show that this unit is currently occupied, and based on life history and population dynamics of the species we have determined that the area was most likely occupied at the time of listing. It is mapped from occurrence records in and along Tres Pinos Creek between the confluences of Boulder and Willow Springs Creeks. SNB-2 is essential for the conservation of the species because it provides aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). SNB-2 is occupied by the species, is expected to prevent fragmentation of habitat in this portion of the species' range, and contains permanent and ephemeral aquatic habitats suitable for breeding and accessible upland areas for dispersal, shelter, and food. The unit consists entirely of private land. The physical and biological features essential to the conservation of California red-legged frog in the SNB-2 unit may require special management considerations or protection due to predation by nonnative species, overgrazing and trampling of aquatic and upland habitat by feral pigs, and recreational activities, which may alter aquatic and upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

SNB-3, Pinnacles National Monument

This unit consists of approximately 63,753 acres of land; is located in the Gabilan Range at Pinnacles National Monument, about 3.5 miles west of the town of San Benito in southern San Benito County; and is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. The unit includes the following watersheds: Gloria Lake, Bickmore Canyon, Sulfur Creek, and George Hansen Canyon. SNB-3 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). SNB-3 is expected to prevent further fragmentation of habitat in this portion of the species' range; contains permanent and ephemeral aquatic habitat suitable for breeding; contains accessible upland areas for dispersal, shelter, and food; and is occupied by the species.

The physical and biological features essential to the conservation of California red-legged frog in the SNB-3 unit may require special management considerations or protection due to predation by nonnative species, overgrazing and trampling of aquatic and upland habitat by feral pigs, and recreational activities, which may alter aquatic and upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

SLO-1, Cholame

This unit consists of approximately 18,018 acres of land; and is located in northeastern San Luis Obispo, northwestern Kern, and southwestern Kings Counties; includes locations in the Cholame Creek drainage; and is mapped from occurrences recorded at time of listing and subsequent to

the time of listing. The unit includes portions of the following watersheds: the southern portion of Blue Point, the western portion of Jack Canyon, and the eastern portion of Palo Prieto Canyon. SLO-1 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). SLO-1 contains permanent and ephemeral aquatic habitats suitable for breeding; contains accessible upland areas for dispersal, shelter, and food; and is occupied by the species.

The physical and biological features essential to the conservation of California red-legged frog in the SLO-1 unit may require special management considerations or protection due to highway construction, overgrazing, and water diversions, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

SLO-2, Piedras Blancas to Cayucos Creek

This unit consists of approximately 82,673 acres of land and is located along the coast in northwestern San Luis Obispo County from approximately Arroyo de Los Chinos southward to just before but not including Whale Rock Reservoir. The unit includes the following watersheds: Arroyo de los Chinos, Lower Arroyo de la Cruz, Arroyo del Corral, Oak Knoll Creek, Broken Bridge Creek, Pico Creek, Upper San Simeon Creek, Lower San Simeon Creek, Steiner Creek, Upper Santa Rosa Creek, Lower Santa Rosa Creek, and Lower Green Valley Creek. The unit is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. SLO-2 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). SLO-2 provides connectivity within the Santa Lucia Range, and between this range and the inner Coast Range in San Luis Obispo County. This unit is occupied by the species. The unit contains high-quality habitat, indicated by high density of extant occurrences, permanent and ephemeral aquatic habitats suitable for breeding, and accessible upland areas for dispersal, shelter, and food.

The physical and biological features essential to the conservation of California red-legged frog in the SLO-2 unit may require special management considerations or protection due to predation by nonnative species, water diversion, overgrazing, and urbanization, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults due to habitat modification.

SLO-3, Willow and Toro Creeks to San Luis Obispo

This unit consists of approximately 116,517 acres of land and is located near the coast in central San Luis Obispo County and extends about 1.9 miles north of the town of Morro Bay southward to just north and east of the city of San Luis Obispo. The unit includes the following watersheds: Old Creek, Whale Rock Reservoir, the southern portion of Hale Creek, Morro Bay, San Luisito Creek, the western and southern portions of Santa Margarita Creek, Choro Reservoir, Stenner Lake, Reservoir Canyon, Trout Creek, and Big Falls Canyon. The unit is mapped from

occurrences recorded at the time of listing and subsequent to the time of listing. SLO-3 contains the features that are essential for the conservation of the species. The unit is currently occupied and contains permanent and ephemeral aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging, dispersal, and shelter (PCE 3 and PCE 4). SLO-3 provides connectivity within the Santa Lucia Range, and between this range and the inner Coast Range in San Luis Obispo County.

The physical and biological features essential to the conservation of California red-legged frog in the SLO-3 unit may require special management considerations or protection due to predation by nonnative species, water diversion, overgrazing, and urbanization, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults due to habitat modification.

SLO-4, Upper Salinas River

This unit consists of approximately 34,463 acres of land, is located at the base of Garcia Mountain about 17 miles east of the City of San Luis Obispo, is mapped from occurrences recorded subsequent to the time of listing, and is currently occupied by the species. Based on the life history and population dynamics of the species we have determined that the area was most likely occupied at the time of listing. The unit includes the following watersheds: Horse Mesa, Douglas Canyon, American Canyon, and Coyote Hole. This unit is essential for the conservation of the species because it is the only unit in San Luis Obispo County entirely within the interior Coast Range and provides connectivity between populations in the coastal areas and populations farther inland. SLO-4 also contains permanent and ephemeral aquatic habitats consisting of natural and manmade ponds surrounded by emergent vegetation and marshland with upland dispersal habitat comprised of riparian areas for dispersal, shelter, and foraging.

The physical and biological features essential to the conservation of California red-legged frog in the SLO-4 unit may require special management considerations or protection due to predation by nonnative species, and due to water diversion, overgrazing, and urbanization, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults due to habitat modification.

STB-1, La Brea Creek

This unit consists of approximately 25,164 acres of land, is located in Los Padres National Forest in northern Santa Barbara County, and is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. The unit includes the following watersheds: Bear Canyon, the southern portion of Smith Canyon, Rattlesnake Canyon, Lower South Fork La Brea Creek, and the eastern portion of Lower La Brea Creek. STB-1 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4).

The physical and biological features essential to the conservation of California red-legged frog in the STB-1 unit may require special management considerations or protection due to recreational activities, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

STB-2, San Antonio Terrace

This unit consists of approximately 12,066 acres of land, is located in northwestern Santa Barbara County near the coast, extends from about Casmalia south to the Santa Lucia Canyon near the Purisima Hills, and is mapped from occurrences recorded subsequent to the time of listing. Based on the life history and population dynamics of the species we have determined that the area was most likely occupied at the time of listing. The unit includes the following watersheds: Graciosa Canyon and Lions Head. STB-2 provides connectivity between coastal populations and populations in the Transverse Ranges. STB-2 also contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). This unit is currently occupied by the species.

The physical and biological features essential to the conservation of California red-legged frog in the STB-2 unit may require special management considerations or protection due to recreational activities, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

STB-3, Sisquoc River

This unit consists of approximately 47,559 acres of land and is located in northern Santa Barbara County and includes locations in the Sisquoc River drainage and is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. The unit contains the following watersheds: the southern portion of Tunnel Canyon, Burro Canyon, Sulphur Creek, Lower Manzano Creek, Middle Manzano Creek, Fir Canyon, Upper Cachuma Creek, and the northern portion of Happy Canyon. STB-3 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). STB-3 is occupied by the species, provides connectivity between locations along the coast and the Transverse Ranges, and is essential in stabilizing populations of the species in tributaries to the Santa Ynez River.

The physical and biological features essential to the conservation of California red-legged frog in the STB-3 unit may require special management considerations or protection due predation by nonnative species, recreational activities, and poor water management practices which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

STB-4, Jalama Creek

This unit consists of approximately 7,685 acres of land and is located along the coast in southwestern Santa Barbara County about 4.4 miles south of the City of Lompoc, and is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. The unit includes the Casper Creek watershed. STB-4 contains the features that are essential for the conservation of the species. The unit includes aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). STB-4 is occupied by the species and provides connectivity between locations along the coast and the Santa Ynez River watershed.

The physical and biological features essential to the conservation of California red-legged frog in the STB-4 unit may require special management considerations or protection due to predation by nonnative species and habitat disturbance, which may alter aquatic and upland habitats and thereby result in the direct or indirect loss of egg masses or adults.

STB-5, Gaviota Creek

This unit consists of approximately 12,888 acres of land, is located along the coast in southern Santa Barbara County about 3 miles southwest of the town of Buellton, and is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. The unit includes the following watersheds: Cañada de las Cruces and Cañada de la Gavota. STB-5 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for shelter, foraging and dispersal activities (PCE 3 and PCE 4). STB-5 is occupied by the species and provides connectivity between locations along the coast and the Santa Ynez River watershed.

The physical and biological features essential to the conservation of California red-legged frog in the STB-5 unit may require special management considerations or protection due to predation by nonnative species and poor water management practices, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults. Populations in this unit may also require special management or protection due to their potential importance in stabilizing California red-legged frog populations in tributaries to the Santa Ynez River.

STB-6, Arroyo Quemado to Refugio Creek

This unit consists of approximately 11,985 acres of land, is located along the coast in southern Santa Barbara County about 5 miles south of the town of Solvang, and is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. The unit includes the Tajiguas Creek watershed. STB-6 contains the features that are essential for the conservation of the species. The unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). STB-6 is occupied by the species, provides connectivity between locations along the

coast and the Santa Ynez River watershed, and contains permanent and ephemeral aquatic habitats suitable for breeding, and upland areas for dispersal, shelter, and food.

The physical and biological features essential to the conservation of California red-legged frog in the STB-6 unit may require special management considerations or protection due to predation by nonnative species and poor water management practices, which may alter aquatic or upland habitats and thereby result in the direct or indirect loss of egg masses or adults. Populations in this unit may also require special management or protection due to their potential importance in stabilizing California red-legged frog populations in tributaries to the Santa Ynez River.

STB-7, Upper Santa Ynez River and Matilija Creek

This unit consists of approximately 145,121 acres of land, is located in southeastern Santa Barbara County about 5 miles north of the City of Santa Barbara, and extends into western Ventura County at Matilija Creek. It is mapped from occurrences recorded at the time of listing and subsequent to the time of listing. The unit includes the following watersheds: Los Lauveles Canyon, Redrock Canyon, Oso Canyon, Buckhorn Creek, Camuesa Creek, Devils Canyon, Indian Creek Campground, Upper Mono Creek, Lower Mono Creek, Blue Canyon Upper Agua Caliente Canyon, Diablo Canyon, Lower Agua Caliente Canyon, Juncal Canyon, Lower Matilija Creek, North Fork Matilija Creek, and Cozy Dell Canyon. STB-7 contains the features that are essential for the conservation of the species. This unit contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4). STB-7 is occupied by the species and provides connectivity between locations along the coast, in the Sierra Madre Mountains, and in the Ventura River watershed. It is important to species conservation and the persistence of the species in the Matilija watershed because it contains permanent and ephemeral aquatic habitats suitable for breeding, and upland areas for dispersal, shelter, and food in that portion of the unit, which will provide connectivity between populations within the Transverse Ranges and will prevent further isolation of breeding locations near the limit of the geographic range of the species. The unit as a whole contains high-quality habitat, indicated by the high density of extant occurrences, permanent and ephemeral aquatic habitat suitable for breeding, and accessible upland areas for dispersal, shelter, and food.

The physical and biological features essential to the conservation of California red-legged frog in the STB-7 unit may require special management considerations or protection due to predation by nonnative species, flood control activities, road maintenance, and recreational activities, which may alter aquatic and upland habitats and thereby result in the direct or indirect loss of egg masses or direct death of adults.

EFFECTS OF THE ACTION

California Red-legged Frog

Activities that are evaluated under this biological opinion are those that would not cause ecosystem-scale changes and are not likely to contribute to the decline of the California red-legged frog. These activities would also not preclude any of the potentially affected critical habitat units from providing the primary constituent elements necessary to support the essential life history functions (i.e., reproduction, feeding, and sheltering) of the California red-legged frog.

Direct impacts to adults, sub-adults, tadpoles, and eggs of the California red-legged frog in the footprint of projects evaluated by this biological opinion may include injury or mortality from being crushed by earth moving equipment, construction debris, and worker foot traffic. These impacts will be reduced by minimizing and clearly demarcating the boundaries of the project areas and equipment access routes and locating staging areas outside of riparian areas or other water bodies. Scheduling work activities to avoid sensitive areas, such as breeding pools during the breeding season and isolated aquatic refuges during dry periods, as proposed by Caltrans, would substantially reduce adverse effects.

The capture and handling of California red-legged frogs to move them from a work area may result in injury or mortality. Mortality may occur as a result of improper handling, containment, or transport of individuals or from releasing them into unsuitable habitat. Improper handling, containment, or transport of individuals would be reduced or prevented by use of a Service-approved biologist. California red-legged frogs may attempt to return to the capture site, especially if it contains suitable breeding habitat and the relocation site is a different pond or creek than the capture site. California red-legged frogs attempting to return to capture sites are likely to be more susceptible to predation, exposure to the elements, and vehicle stikes if they attempt to return to the original capture site. Relocating California red-legged frogs within the same drainage or water body, if possible, will reduce this threat. Overall, relocation as proposed by Caltrans is intended to reduce the risk of injury or mortality from the direct effects described above.

Construction activities, including noise and vibration, may cause California red-legged frogs to temporarily abandon habitat adjacent to work areas. This disturbance may increase the potential for predation and desiccation when California red-legged frogs leave shelter sites.

Tadpoles may be entrained by pump intakes if such devices are used to dry out work areas. However, Caltrans will ensure that pump intakes are covered with wire mesh not larger than 0.2 inch to preclude juvenile California red-legged frogs and tadpoles from entering pump intakes.

Some potential also exists for disturbance of habitat to cause the spread or establishment of non-native invasive species, such as giant reed (*Arundo donax*) or salt cedar (*Tamarix* spp.). Once established, these species degrade habitat values through several mechanisms (Service 1999).

Breeding pools surrounded by large amounts of salt cedar and giant reed may dry faster because their rates of evapotranspiration are generally greater than those of native riparian species. The abundance and diversity of prey species are generally less in dense stands of giant reed and salt cedar than in areas dominated by native plants. Additionally, these invasive species can eventually out-compete native plant species and displace them; dense aggregations of salt cedar can cause soils to become hypersaline because these plants concentrate salt from water and then excrete it onto the surrounding ground. Caltrans has proposed measures to prevent the spread or introduction of these species, such as minimizing the number of access routes, size of staging areas, and the total area of the activity; restoring disturbed areas with native species. These measures should reduce or eliminate this adverse effect.

Some actions proposed by Caltrans may involve the use of herbicides to control or eliminate non-native plant species. There are currently 66 pesticides are not approved for use in habitat for the California red-legged frog (Center for Biological Diversity v. Johnson and Nastri; case number C-02-1580-JSW). Caltrans has been exempted from this injunction for upland and riparian projects and projects that are 60 feet or more from bodies of water (G. Ruggerone pers. comm. 2007). However because California red-legged frogs may occur in upland habitat up to one mile from suitable aquatic habitat, there is still a potential for California red-legged frogs to be adversely affected by Caltrans' use of herbicides in uplands.

If Caltrans uses herbicides, Glyphosate (formulated as Rodeo® or Aquamaster®) is probably the most likely herbicide to be used. Glyphosate is the active ingredient in a variety of herbicides including Roundup®, Rodeo®, Aquamaster®, Buccaneer®, Glyfos®, Honcho®, Touchdown®, Vision®, Duramax®, Rattler®, and others. Glyphosate is a systemic herbicide that will kill broadleaf and grass species by inhibiting the production of aromatic amino acids in plants and some microorganisms that are necessary to build proteins (Devine et al. 1993). Because many animals lack the synthesis pathway that glyphosate disrupts, it is considered to have low potential to cause toxicity in animals (Devine et al. 1993). Most glyphosate products are formulated to contain surfactants that allow the active ingredients to spread over and penetrate the plant cuticles. Surfactants can be the most toxic portion of a pesticide product. The surfactant associated with many glyphosate products is a polyethoxylated tallowamine (POEA) surfactant.

California red-legged frog eggs, tadpoles, juveniles and adults can be exposed to glyphosate products and POEA surfactants in aquatic habitats through direct overspray of wetlands, drift from treated areas, or contaminated runoff from treated areas. The half-life of glyphosate in pond water ranges between 12 days and 10 weeks (Extoxnet 1996). Additionally, juvenile and adult California red-legged frogs can also be exposed to glyphosate in terrestrial habitats that have been treated. Glyphosate and POEA readily binds to soil particles and can be degraded by microbes in 7 to 70 days depending on soil conditions (Giesy et al. 2000). The half-life of glyphosate in soil can range from three to 249 days and the POEA surfactant in Roundup has a soil half-life of less than one week (Forest Service 1997).

No information is available regarding the toxicity of glyphosate products specifically to California red-legged frogs. Studies exploring the lethal and sublethal effects of glyphosate products on other amphibians, including similar frog species classified in the same genus as the California red-legged frog (*Rana*) are available but are largely focused on aquatic life stages of the species and formulations of glyphosate that include surfactants. Roundup Original Max®, a glyphosate product with POEA surfactant, was demonstrated to be moderately to highly toxic to nine species of frog and toad tadpoles including five *Rana* species: wood frog (*Rana sylvatica)*, leopard frog (*Rana pipiens*), Cascades frog (*Rana cascadae*), green frog (*Rana clamitans*), and American bullfrog (*Rana catesbeiana*) (Relyea and Jones 2009). Because the biology of these species is very similar to the California red-legged frog, we assume the effects of POEA surfactants and glyphosate formulations containing POEA, would be the same on the California red-legged frog. Mann and Bidwell (1999) also found evidence of acute toxicity to four Australian frog species exposed to Roundup,® while the isopropylamine (IPA) salt of glyphosate (the active constituent in Roundup®) was found to be non-toxic. The mortality of tadpoles is hypothesized to be caused by the lysis of gill cells from exposure to surfactants (Lajmanovich et al. 2003, Edington et al. 2004) resulting in either to asphyxiation or loss of osmotic stability (Able 1974) indicating that the life stage during which frogs and toads have gills may be particularly vulnerable. Glyphosate products containing POEA surfactants have also been shown to have sub-lethal effects to amphibians including decreased size, increased time to metamorphosis, tail malformations, and gonadal abnormalities (Govindarajulu 2008, Howe et al. 2004).

Several studies suggest that the toxicity of glyphosate products is linked with the surfactant, and not the glyphosate. Howe et al. (2004) compared the toxicity of glyphosate alone, to glyphosate with POEA surfactant, and POEA alone, on green frogs. Results indicated that the toxicity of glyphosate with POEA surfactant was similar to the POEA surfactant alone, which was much greater than glyphosate alone, indicating that the POEA was responsible for the toxic effects. In a comprehensive review of studies involving the effects of glyphosate on amphibians Govindarajulu (2008) concluded that the toxic effect of glyphosate products containing POEA are due to the POEA rather than the active glyphosate ingredient.

These studies indicate that glyphosate products formulated with POEA surfactants will likely kill or injure California red-legged frogs in aquatic habitats, with tadpoles being particularly vulnerable. Because glyphosate and POEA readily bind to soil and sediments, these chemicals may be less available to California red-legged frogs in terrestrial habitats; however, research is needed to determine toxicity mechanisms and thresholds from terrestrial exposure. Based on the literature (Howe 2004, Govindarajulu 2008), adverse effects to California red-legged frogs from the use of glyphosate products can be minimized through the use of products that do not contain a surfactant. Formulations that lack a surfactant include Rodeo and Aquamaster, which have been approved by the Environmental Protection Agency, through their registration process, for aquatic use.

A low-toxicity, non-POEA surfactant that works well with Rodeo® or Aquamaster® is Agri-Dex®, produced by Helena Chemicals. We are not aware of any information regarding the

toxicity of Agri-Dex® on amphibians, but based on the data available, Monheit et al. (2004) concluded crop oil-based surfactants (i.e. Agri-Dex®) are probably less acutely toxic to fish, aquatic invertebrates and one frog species tested, than some other types of surfactants. The amount of Agri-Dex® that resulted in acute toxicity (i.e., >1000 parts per million (ppm) (Helena Chemical Company 2004, Washington State Department of Ecology and Agriculture 2004) was levels of magnitude higher than other surfactants tested including POEA (1.6 to 0.65ppm in Haller and Stocker 2003, Giesy et al. 2000, Folmar et al. 1979). It is important to note that so called crop oil-based surfactants, which suggest these products are vegetable-based, are actually petroleum products (Forest Service 1997). There could be sub-lethal adverse effects or long-term adverse effects to California red-legged frogs, from chronic exposure to these chemicals, that have not been documented. Overall, Agri-Dex® may be less toxic than other surfactants, but the use of glyphosate without a surfactant is probably even less toxic to the California red-legged frog.

The protective measures proposed by Caltrans, including surveys prior to the application of herbicides, capture and relocation of California red-legged frogs out of harm's way and restricting the use of herbicides to the non-breeding season (dry summer months) will greatly reduce the potential for injury or mortality of the California red-legged frog as a result of herbicide use.

If water that is impounded during or after work activities creates favorable habitat conditions fornon-native predators, such as bullfrogs, crayfish, and centrarchid fishes, California red-legged frogs may suffer abnormally high rates of predation. Additionally, any time California red-legged frogs are concentrated in a small area at unusually high densities, native predators such as herons, egrets, opossums (*Didelphis virginiana*), and raccoons (*Procyon lotor*) may feed on them opportunistically. Finally, if impoundments occupied by California red-legged frogs were to dry out as a result of construction activity, California red-legged frogs may die of desiccation or be eaten by predators as they attempt to find other suitable habitat. Caltrans' proposal to avoid creating impoundments of water within project areas is likely to reduce these effects.

Trash left during or after project activities could attract predators to work sites, which could, in turn, prey on California red-legged frogs. For example, raccoons are attracted to trash and also prey opportunistically on California red-legged frogs. This potential impact will be reduced or avoided by careful control of waste products at all work sites as proposed by Caltrans.

Chytridiomycosis is an infectious disease that affects amphibians worldwide, and is caused by the chytrid fungus. Chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus only attacks the parts of a frog's skin that have keratin (thickened skin), such as the mouthparts of tadpoles and the tougher parts of adults' skin, such as the toes. The fungus can decimate amphibian populations, causing fungal dermatitis which usually results in death in 1 to 2 weeks, but not before infected animals may have spread the fungal spores to other ponds and streams. Once a pond or waterway has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. Chytrid fungus could be spread if infected

California red-legged frogs are relocated and introduced into areas with healthy California red-legged frogs. It is also possible during the relocation of California red-legged frogs that infected equipment or clothing could introduce chytrid fungus into areas where it did not previously occur. Caltrans proposes to implement the fieldwork code of practice developed by the Declining Amphibian Populations Task Force which should reduce or eliminate the potential for movement of chytrid fungus.

Accidental spills of hazardous materials or careless fueling or oiling of vehicles or equipment could degrade aquatic or upland habitat to a degree where California red-legged frogs are adversely affected or killed. The potential for this impact to occur will be reduced by Caltrans' proposal to require: all refueling, maintenance, and staging of equipment and vehicles to occur at least 60 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat; the monitor to ensure contamination of habitat does not occur during such operations; that a plan is in place for prompt and effective response to any accidental spills; and all workers to be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Workers may intentionally or unintentionally disturb, injure, or kill California red-legged frogs. The potential for this impact to occur will be reduced by Caltrans' proposal to conduct pre-construction training informing workers of the presence and protected status of this species and the measures that are being implemented to protect it during project activities.

Work in streams or in floodplains could cause unusually high levels of siltation downstream. This siltation could smother eggs of the California red-legged frog and alter the quality of habitat to the extent that use by individuals of the species is precluded. Implementing best management practices and reducing the area to be disturbed to the minimum necessary, as proposed by Caltrans, will likely assist in reducing the amount of sediment that is washed downstream, as a result of project activities.

Caltrans has proposed that consultation would be reinitiated if 10 California red-legged frogs or 20 tadpoles are killed or injured in any given year, or if 50 California red-legged frogs are killed or injured in total. However, because of the measures that Caltrans has proposed to reduce the level of injury or morality, we expect that few California red-legged frogs would be killed or injured in any given year. Additionally, based on reproductive biology the subspecies, loss of 10 California red-legged frogs or 20 tadpoles in any given year, throughout the seven counties covered by this consultation, is not likely to compromise the conservation of the subspecies because this number represents a very small portion of the total breeding individuals assumed to be present in this region.

Critical Habitat for the California Red-legged Frog

Actions conducted pursuant to this biological opinion may be located within any one of the 19 aforementioned critical habitat units in five counties. The PCEs of critical habitat for the

California red-legged frog include: (1) aquatic breeding habitat, (2) aquatic non-breeding habitat, (3) upland habitat, and (4) dispersal habitat.

The PCEs associated with individual project sites may be permanently or temporarily altered as a result of projects conducted pursuant to this biological opinion. However, we anticipate that the effects of those projects, which must meet the criteria for use of this biological opinion, will be of such a small scale that they will not preclude the PCEs from supporting the essential life history functions of the California red-legged frog. For example, a bridge retrofitted for earthquake safety may have slightly larger footings as a result of the project. Such a minor permanent loss of aquatic habitat is not likely to compromise the ability of a stream to support the aquatic life stages of the California red-legged frog.

The reinitiation thresholds that Caltrans has proposed will ensure that the conservation of the California red-legged frog is not compromised within the affected critical habitat units. These upper limits for permanent loss of aquatic, upland, and dispersal habitat (20 acres in any given year or 100 acres in total) and upland habitat (20 acres in any given year or 100 acres in total), and temporary disturbance (100 in any given year, or 500 acrestotal over the life of the biological opinion) would be spread across the 19 critical habitat units, in which the activities covered by this biological opinion would be implemented. Given the wide distribution of a relatively minor amount of disturbance or loss of aquatic, upland, and dispersal habitat, and the high potential that most disturbance would recover within a few years, we expect the PCEs in each of the affected critical habitat units to continue to provide the life history functions essential to the conservation of the California red-legged frog.

The protective measures included in the Description of the Proposed Action section of this biological opinion would minimize adverse effects to the PCEs of critical habitat for the California red-legged frog. Based on the suitability criteria to qualify for use of this biological opinion, and the protective measures Caltrans would implement, we anticipate that any effects to critical habitat for the California red-legged frog would be temporary or minor. We do not expect such minor or temporary effects to preclude a critical habitat unit from supporting the PCEs and associated life history functions (i.e., reproduction, dispersal, feeding, and sheltering) of critical habitat for the California red-legged frog.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

At this time, we do not know the specific locations of future projects that may be conducted pursuant to this biological opinion, other than that they would be sited within the Caltrans rights-of-way in San Benito, Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties. We

are unaware of any future non-Federal actions that are reasonably certain to occur within the action area.

CONCLUSION

After reviewing the current status of the California red-legged frog, its critical habitat, the environmental baseline, the effects of the action, projects that could be authorized under the provisions of this programmatic biological opinion, and the cumulative effects, it is the Service's biological opinion that the Caltrans' proposed action is not likely to jeopardize the continued existence of the California red-legged frog or destroy or adversely modify its critical habitat.

We have reached this conclusion because:

1. The notification process described previously allows us to review each proposed action to determine if it meets falls within the scope of this programmatic biological opinion, and to ensure the effects are not likely to be outside of the limited levels we anticipate;

2. Few California red-legged frogs are likely to be killed or injured during project activities;

3. Caltrans has established a threshold that will trigger reinitiation of formal consultation (based on a finite number of California red-legged frogs that would be injured or killed), which would not result in population level impacts to this species;

4. In comparison with the amount of critical habitat available to the California red-legged frog in San Benito, Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties, a relatively small amount of critical habitat would be permanently lost within each critical habitat unit and relative to the entire critical habitat designation;

5. Although we anticipate that some minor or temporary adverse effects to the PCEs in each of the 19 affected critical habitat units may occur, we do not anticipate effects of this nature to preclude those PCEs from providing the essential life history functions (i.e., reproduction, dispersal, feeding, and sheltering) necessary to ensure the conservation of the California red-legged frog because Caltrans has established a threshold of affected acres of habitat types that comprise the PCEs, that will trigger reinitation of formal consultation; and

6. Caltrans has proposed numerous measures to reduce the adverse effects of the proposed activities on the California red-legged frog and its critical habitat.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat

modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of an incidental take statement contained in a biological opinion.

The measures described below are non-discretionary and Caltrans must make them binding conditions of any contract, permit, or funding to contractors or County Governments for the exemption in 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activities covered by this incidental take statement. If Caltrans fails to adhere to the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

This biological opinion evaluates the effects of a certain scope and scale of actions that Caltrans may undertake in San Benito, Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties on the California red-legged frog, and its critical habitat. Because of the protective measures that Caltrans has proposed, we expect that few California red-legged frogs would be killed in any given year. All California red-legged frogs found within project areas that meet the suitability criteria described in this biological opinion may be captured and relocated. However, because capture and relocation is intended to reduce the potential for injury or mortality, and Caltrans will use biologists experienced in the capture and handling of California red-legged frogs, we anticipate that few, if any, California red-legged frogs will be injured or killed as a result of capture and relocation efforts. Finally, there is a potential for a number of California red-legged frogs to be taken as a result of exposure to herbicides, during which some may be killed or injured. The protective measures Caltrans has proposed, including conducting surveys prior to the application of herbicides, capture and relocating California red-legged frogs out of harm's way, and restricting the use of herbicides to the non-breeding season (dry summer months) of the California red-legged frog will greatly reduce the potential for injury or mortality as a result of herbicide use.

Based on the triggers for reinitiation of formal consultation that Caltrans has identified in their proposed action, we anticipate that no more than 10 adult or subadult California red-legged frogs, 10 egg masses, or 20 tadpoles would be injured or killed in a given year, or 50 California red-legged frogs during the life of this biological opinion, will be injured or killed as a result of the proposed action.

Incidental take of California red-legged frog adults, subadults, or tadpoles may be difficult to detect for the following reasons: (1) the California red-legged frog is generally difficult to detect

due to its small body size; (2) finding a dead or impaired specimen is unlikely; (3) losses may be masked by seasonal fluctuations in hydrology unrelated to the project. However, the maximum number of individuals proposed to be killed or injured each year is a relatively small portion of the population of California red-legged frogs in the action area. We do not expect the loss of these few California red-legged frog adults, subadults, egg masses, or tadpoles to compromise the ability of the species to survive and recover. Given the reproductive biology of the species, described in the Status of the Species section of this biological opinion, this number also represents a very small portion of the total number of individuals assumed to be present throughout the sub species' range. Given the wide distribution of a relatively minor amount of disturbance or temporary loss of habitat, the high potential that most disturbed areas would recover within a few years, and the ability of the California red-legged frog to survive in varying conditions, we expect the overall effect on the habitat of the California red-legged frog by the proposed activities to be minor.

This biological opinion does not exempt any activity from the prohibitions against take contained in section 9 of the Act that is not incidental to the action as described in this biological opinion. Take that occurs outside of demarcated work areas or from any activity not described in this biological opinion is not exempted from the prohibitions against take described in section 9 of the Act.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the take of California red-legged frogs:

1. Biologists must be authorized by the Service before they survey for, capture, and relocate California red-legged frogs from work areas.

2. Caltrans must further minimize the potential for transmitting Chytrid fungus to new locations.

The Service's evaluation of the effects of the proposed action includes consideration of the measures to minimize the adverse effects of the proposed action on the California red-legged frog that were developed by Caltrans and the Service and repeated in the Description of the Proposed Action portion of this biological opinion. Any subsequent changes in these measures proposed by Caltrans may constitute a modification of the proposed action and may warrant reinitiation of formal consultation, as specified at 50 CFR 402.16. These reasonable and prudent measures are intended to supplement the protective measures that were proposed by Caltrans as part of the proposed action.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, Caltrans must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. The following terms and conditions implement reasonable and prudent measure 1:

1.1 Chuck Cesena, Mitch Dallas, Tom Edell, Jennifer Moonjian, Morgan Robertson, Lisa Schicker, Nancy Siepel, Jim Walth, Lisa Schicker, Cathy Stettler, and Sarah Paulson are authorized to capture, handle, relocate, survey and monitor for California red-legged frogs. Paul Holmes is authorized to independently survey and monitor for California red-legged frogs, and may capture, handle, and relocate California red-legged frogs under the direct supervision of the biologists authorized above. If Caltrans wishes to use additional biologists, it must provide their qualifications to the Service at least 30 days before they are to begin work. Additional biologists must not capture, handle, or monitor California red-legged frogs (unless under the direct, on-site supervision of the biologists authorized above) without written approval from the Service.

1.2 Prior to the onset of grading and construction activities, Service-approved biologists must identify appropriate areas to receive translocated California red-legged frog adults and tadpoles in the action area. These areas must be in proximity to the capture site, outside of any area likely to be adversely impacted by construction activities, provide suitable habitat, and be free of exotic predatory species (e.g., bullfrogs, crayfish) to the best of the Service-approved biologist's knowledge.

1.3 If the affected aquatic habitat includes a creek or river system, the relocation site must be within the same drainage.

1.4 If the affected aquatic habitat includes a pond or other isolated water body, Caltrans must receive the Services approval, in writing, prior to relocating any California red-legged frogs.

If Chytrid fungus is known to occur in the drainage or pond where the proposed action would occur, California red-legged frogs must not be relocated into different drainages or ponds, without prior written approval from the Service.

REPORTING REQUIREMENTS

In addition to the pre-project notification, Caltrans must submit an annual list of projects they conducted under this programmatic concurrence and programmatic biological opinion, as described in the Description of the Proposed Action section of this document. In addition, the

enclosed Project Completion form describes the information that Caltrans must provide to the Ventura Fish and Wildlife Office upon the completion of each specific project conducted under this programmatic concurrence and programmatic biological opinion.

DISPOSITION OF DEAD OR INJURED SPECIMENS

Within 3 days of locating any dead or injured California red-legged frogs, Caltrans must notify the Ventura Fish and Wildlife Office by telephone [(805) 644-1766] and in writing (2493 Portola Road, Suite B, Ventura, California 93003). The report must include the date, time, and location of the carcass, a photograph, cause of death, if known, and any other pertinent information.

Care must be taken in handling dead specimens to preserve biological material in the best possible state for later analysis. Should any injured California red-legged frogs survive, the Service must be contacted regarding their final disposition.

The remains of California red-legged frogs found in San Benito, Santa Cruz, or Monterey Counties must be placed with the California Academy of Sciences Herpetology Department (Contact: Jens Vindum, Senior Collections Manager, California Academy of Sciences Herpetology Department (herpetology@calacademy.org), 55 Music Concourse Drive, San Francisco, California 94118.

The remains of California red-legged frogs found in San Luis Obispo, Santa Barbara, Ventura, or Los Angeles Counties must be placed with the Santa Barbara Natural History Museum (Contact: Paul Collins, Santa Barbara Natural History Museum, Vertebrate Zoology Department, 2559 Puesta Del Sol, Santa Barbara, California 93460, (805) 682-4711, extension 321). Caltrans must make arrangements regarding proper disposition of potential museum specimens prior to implementation of any actions conducted pursuant to this biological opinion.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that Caltrans expand its regional planning efforts for the California red-legged frog to further facilitate an ecosystem approach to conservation while attempting to recognize, at an early stage of planning, where conflicts between conservation of the California red-legged frog and future transportation projects may arise.

2. We encourage Caltrans, biological consultants, and/or other researchers to participate in research on California red-legged frogs. Research topics could include, but are not limited to: metapopulation dynamics, dispersal and migration studies, and the effects of

predation and habitat quality on California red-legged frogs. We encourage Caltrans to coordinate with the Service and the California Department of Fish and Game to develop research proposals under the Service's Endangered Species Conservation Grants (Section 6 Traditional) Program.

The Service requests notification of the implementation of any conservation recommendations, so we may be kept informed of actions that minimize or avoid adverse effects to or benefit the California red-legged frog and its habitat.

REINITIATION NOTICE

This concludes formal consultation on projects funded under the Federal Highway Administration's Federal Aid program that are likely to adversely affect the California red-legged frog, its critical habitat, or its proposed critical habitat. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law), and if (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, (3) the agency action is subsequently modified in a manner that causes an effect on listed species or critical habitat that was not considered in this opinion, or (4) a new species is listed or critical habitat is designated that may be affected by the action.

If you have any questions, please contact Steve Kirkland of my staff at (805) 644-1766, extension 267.

Sincerely,

Diane K. Noda

Diane K. Noda
Field Supervisor

Enclosures
Caltrans Project Completion Report
The Declining Amphibian Populations Task Force Fieldwork Code of Practice

Project	Biological Opinion	Permanent Aquatic	Permanent Upland	Temp Aquatic	Temp. Upland	Critical Habitat
Picachio Road Bridge	2006	.5	0.18		.39	no
Bob Jones Bike	2007	0	0		0.39	no
Chittendon Pass	2006	0	0.27	0	0.25	no
Harkin Slough Br. Over Struve slough	2006	0.004	0.12	.08	1.16	no
Harkin Slough Br. Over Watsonville Slough	2004	0.25	0.22	0	0.71	no
Cienega Rd. Bridge	2006	0.404	0.404	0	1.19	no
San Benito River Bridge	2006	0	0	0.002	0.159	no
Salinas Rd. Interchange	2006	0.9	0.09	0	0.43	no
Pfiefer Big Sur Left Turn Lane	2006	0.002	0.26	0.002	1.2	no
Hwy 101 widening-SR 135-166	2006	0	0.22	0.25	0	no
San Simeon Creek Bridges	2006	0.3	1.8	0.4	0.25	yes*
San Luis Bay Drive	2005	0	0.25	0.005	3	no
Hollister Ave. Interchange	2005	0	0.21	0	0.084	no
Lone Tree Rd. Bridge	2005	0.005	0.19	0.005	0.27	no
Breaker Point CURE	2004	0.06	0	0.006	0	no
Jalama Creek Bridge	2004	0	0	0.24	0	yes*
Murphy Rd. Bridge	2004	0	0	0	0.22	no
Paulsen-Whiting Bridge	2004	0	0.09	0.06	0.03	no
Hollister Road Bridge	2004	0.04	0.03	0.16	0.3	yes(proposed)
Amesti Road Repair (lost funding)	2003	0.04	0.03	0.16	0.323	no
Main Street Bridge Replacement, Cambria	2007	0.19	1.13	.03	0.03	yes*
Harmony Left turn lane	2007	0.1	0.8	0.029	0.28	no
Gilardi Road Bridge Replacement	2009	0	0.1	0.035	0.333	yes*
Los Osos Valley Road Widening	2008	0.35	1.75	0.5	4.2	yes*
California Coastal Trail Gaviota Segment	2009	0	0.15	0	0.5	yes*
Guadalupe Ditches Project	2010	0	0	3.42	0	no

Appendix 1. Amount of California red-legged frog habitat anticipated to be permanently lost and temporarily disturbed.
***Construction not completed and project within March 17, 2010 critical habitat designation**

Project	Biological Opinion	Construction completed	Perm. Aquatic	Temp. Aquatic	Perm. Upland	Temp. Upland
Picachio Road Bridge	2006	2007	Not reported	Not reported	Not reported	Not reported
Bob Jones Bike Path #3	2007	2008	None reported	None reported	None reported	0.138
Chittendon Pass	2006	2009	None reported	Not reported	Not reported	Not reported
Harkin Slough Road over Struve slough	2006	2008	0.004	0.61	0.44	0.71
Harkin Slough Road over Watsonville Slough	2004	2007	0.007	2.88	0	0
Cienega Rd. Bridge	2006	2007	0.032	None reported	0.404	0.159
Pfiefer Big Sur Left Turn Lane	2006	2009	Not reported	Not reported	Not reported	Not reported
Lone Tree Rd. Bridge	2005	2008	0.005	0.005	0.19	None reported
Breaker Point CURE	2004	2006	0.138	0.219	(Included in acres of riparian)	1.33
Murphy Rd. Bridge	2004	2006	Not reported	Not reported	Not reported	Not reported
Paulsen-Whiting Bridge	2004	2006	Not reported	Not reported	Not reported	0.3
San Luis Bay Drive Bridge	2005	2007	0.002	0.034	0.238	0.562
Hollister Road Bridge	2004	2009	0.033	0.15	0.20	0.12
Harmony Left turn lane	2007	2008	0.37	.014	0.016	0.10
San Benito River Bridge Seismic Retrofit	2006	2007	Not reported	Not reported	Not reported	Not reported

Appendix 2. Amount of California red-legged frog habitat permanently lost and temporarily disturbed as a result of the completed project.

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Project Completion Report for Caltrans projects that may affect California red-legged frogs

Caltrans must ensure that this form is completed or that the requested information is provided in a written report upon completion of the project and restoration activities.

Mail completed form or report to: U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, 2493 Portola Road, Suite B, Ventura, California 93003 .

1. Project title and location:
2. Project Completion Dates A. Construction: B: Restoration:
3. Type of actions that occurred: 4. 5. 6. 7. 8.
9. Habitat type and number of acres affected (e.g., upland, riparian) 10. 11. 12. 13. 14.
15. Linear feet of work in a stream:
16. How the site was restored and a description of the area after completion of the action: 17. 18. 19. 20. 21.
22. If no restoration occurred, the justification for not conducting this work: 23. 24. 25. 26. 27.
28. Which measures were employed to protect California red-legged frogs: 29. 30. 31. 32. 33.
34. The number of California red-legged frogs taken and the form of take: 35. 36. 37. 38. 39.
I. The number of California red-legged frogs removed from work areas to nearby undisturbed habitat and the location of that habitat: II. III. IV. V.
VI. Recommendations of any modifications to future measures to enhance protection of the California red-legged frog while simplifying compliance with the Endangered Species Act: VII. VIII. IX.

The Declining Amphibian Populations Task Force Fieldwork Code of Practice

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires, and all other surfaces. Rinse cleaned items with sterilized (e.g., boiled or treated) water before leaving each study site.

2. Scrub boots, nets, traps, and other types of equipment used in the aquatic environment with 70 percent ethanol solution or a bleach solution of one-half to one cup of bleach in one gallon of water and rinse clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond, wetland, or riparian area.

3. In remote locations, clean all equipment with 70 percent ethanol or a bleach solution, and rinse with sterile water upon return to the lab or a "base camp." Elsewhere, when laundry facilities are available, remove nets from poles and wash (in a protective mesh laundry bag) with bleach on a "delicate" cycle.

4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable vinyl[1] gloves and change them between handling each animal. Dedicate separate sets of nets, boots, traps, and other equipment to each site being visited. Clean and store them separately at the end of each field day.

5. Safely dispose of used cleaning materials and fluids. Do not dispose of cleaning materials and fluids in or near ponds, wetland, and riparian areas; if necessary, return them to the lab for proper disposal. Safely dispose of used disposable gloves in sealed bags.

6. When amphibians are collected, ensure the separation of animals from different sites and take great care to avoid indirect contact (e.g., via handling or reuse of containers) between them or with other captive animals. Do not expose animals to unsterilized vegetation or soils which have been taken from other sites. Always use disinfected and disposable husbandry equipment.

7. If a dead amphibian is found, place it in a sealable plastic bag and refrigerate (do not freeze). If any captured live amphibians appear unhealthy, retain each animal in a separate plastic container that allows air circulation and provides a moist environment from a damp sponge or sphagnum moss. For each collection of live or dead animals, record the date and time collected, location of collection, name of collector, condition of animal upon collection, and any other relevant environmental conditions observed at the time of collection. Immediately contact the Ventura Fish and Wildlife Office at (805) 644-1766 for further instructions.

The Fieldwork Code of Practice has been produced by the Declining Amphibian Populations Task Force with valuable assistance from Begona Arano, Andrew Cunningham, Tom Langton, Jamie Reaser, and Stan Sessions.

For further information on this Code, or on the Declining Amphibian Populations Task Force, contact John Wilkinson, Biology Department, the Open University, Walton Hall, Milton Keynes, MK7 6AA, UK. Email: DAPTF@open.ac.uk. Fax: +44 (0) 1908-65416

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[1] Do not use latex gloves. Latex is toxic to amphibians.

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