

Appendix D

Biological Resources

Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project



Natural Environment Study

Whiskey Slide Road over Jesus Maria Creek
Calaveras County, California
Federal Aid Number BRLO 5930(064)

August 2018



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Prepared By: Catherine Silvester Date: 8/3/2018

Catherine Silvester, Environmental Specialist
(916) 365-8715
HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 155, Folsom, CA 95630
Consultant

Submitted By: Mark Davis Date: 8/15/18

Mark Davis, Senior Civil Engineer
(209) 754-6401
Calaveras County Public Works
891 Mountain Ranch Road
San Andreas, CA 95249
Authorized Local Agency Representative

Recommended
for Approval By: _____ Date: _____

Samuel Porras, District 10 Associate Environmental Biologist
(209) 948-3667
California Department of Transportation
Division of Planning, Local Assistance & Environmental
District 10

Approved By: _____ Date: _____

Dominic Vitali, District Environmental Branch Chief
(209) 948-7427
California Department of Transportation
Division of Planning, Local Assistance & Environmental
District 10

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Executive Summary

The County of Calaveras (County), in coordination with the California Department of Transportation (Caltrans) proposes to replace the existing bridge at Whiskey Slide Road over Jesus Maria Creek (Bridge No. 30C0062) in Calaveras County, California. The County proposes to use federal funds from the Federal Highway Administration (FHWA). The County Public Works Department is the local lead agency for California Environmental Quality Act (CEQA) compliance. Caltrans is the lead agency for National Environmental Policy Act (NEPA) compliance. This document identifies and quantifies biological resources that may be affected by the proposed project.

Project Location

The Whiskey Slide Road over Jesus Maria Creek bridge is located in unincorporated, central Calaveras County. The bridge is approximately 2.5 miles southeast of the intersection of Whiskey Slide Road with Jesus Maria Road, and approximately 3.5 miles northwest of the intersection of Whiskey Slide Road with Mountain Ranch Road in the town of Mountain Ranch, California. State Route (SR) 49 is approximately 7.3 miles west of the project site. The project is located in Section 30 of Township 5 North and Range 13 East of the U.S. Geological Survey (USGS) 7.5-minute "Rail Road Flat, CA" topographic quadrangle.

Purpose and Need

The bridge and roadway in the project area experiences a low traffic volume and primarily services local traffic, consisting primarily of local residents. The average daily traffic volume is approximately 93 vehicles. The primary purpose of the project is to bring the bridge up to current geometrical and structural standards. In a routine bridge inspection report completed by Caltrans in 2010, the existing bridge was given a sufficiency rating of 35.1 out of 100 and a status of structurally deficient. A structurally deficient status is defined as a bridge that has one or more structural defects that require attention; however, it does not indicate the severity of the defect but rather that a defect is present. Structurally deficient can indicate the bridge needs repairs to prevent minor problems such as minor cracks, erosion, peeling paint, from becoming more serious.

The proposed project is needed to provide residents, motorists, pedestrians and emergency vehicles a safe, all-weather path of travel across Jesus Maria Creek. Without improvements, the bridge's structurally deficient condition is expected to deteriorate. The proposed project would ultimately create a safer bridge.

Description of Proposed Project

The Biological Study Area (BSA) occupies approximately 3.92 acres. In the BSA, Whiskey Slide Road is a rural local road in mountainous terrain with a 10- to 11-foot-wide paved roadway and narrow shoulders. The roadway features substandard widths, curve radii and sight distances. The bridge over Jesus Maria Creek is a paved, single lane, single-span steel girder structure with a concrete deck built in 1936. The structure is supported on reinforced concrete spread footing founded on bedrock with reinforced concrete wingwalls. The existing bridge is approximately 42 feet long and 14.4 feet wide. From the south, the existing roadway approaches Jesus Maria Creek from

the southwest and crosses over the creek at a slight skew. North of the bridge, the roadway turns northwesterly in an approximately ninety-degree turn, and continues to the northwest.

The proposed project would involve removing the existing bridge over Jesus Maria Creek and constructing a new bridge crossing Jesus Maria Creek approximately 30 feet west of the existing alignment. The road would be realigned and widened along the approaches to accommodate the new bridge. The proposed bridge replacement alternatives would involve constructing an approximately 60-foot-long, 23.3-foot-wide cast-in-place or precast concrete single-span bridge or two-span standard slab bridge supported in the creek on a pier wall. The bridge would feature a 20-foot-wide travel width between two traffic barriers. The profile would be approximately 6 feet higher than the existing bridge deck and increase along the south approach to conform farther back onto the steep approach slope. Reinforced concrete, seat-type abutments founded on spread footings would be constructed in each creek bank. Approach improvements would extend approximately 220 feet from the bridge to the south along a generally tangent alignment and 350 feet from the bridge to the north along the curved alignment.

The existing roadway and bridge passes through privately owned property. Approximately 0.50 acre of new right-of-way (ROW) in an implied dedication easement is anticipated to accommodate the new bridge and its roadway approaches, and approximately 0.1 acre from the existing roadway easement will be removed from County maintenance and control and returned to the private property owner's control at the conclusion of the project.

Ground disturbing activities include clearing and grubbing, and shallow roadway excavation along the bridge approaches. Deeper excavation associated with constructing the bridge abutments, the retaining wall, and rock slope protection keyway will occur at the site of the bridge crossing. The spread footings of the abutments, retaining wall foundations, and the rock slope protection keyway are assumed to be placed on competent rock material. The competent material elevation is uncertain, and additional excavation may be required during construction if competent materials are not found at the prescribed bottom of the footings, foundations, and keyway. Excavation for the abutments would not exceed 20 feet in depth. The existing bridge and abutments would be dismantled and removed, and the existing abutment locations would be regraded into stable embankments which would be seeded and restored to a natural habitat.

The project would result in approximately 0.78 acre of permanently affected area associated with construction of the new bridge, and approximately 1.09 acres of temporary impact associated with ground disturbance during construction. Permanent impacts include areas within the grading limits that would be permanently impacted from placement of engineered fill, bank protection, and construction of the new bridge and its approaches (0.78 acre composed of 0.49 acre of mixed conifer forest, 0.08 acre of annual brome grassland, 0.14 acre of white alder riparian forest, and 0.07 acre of Jesus Maria Creek). Temporary impacts include the staging area which would be partially cleared during construction but allowed to return to a natural habitat, and a 25-foot-wide buffer around the grading limits to account for potential indirect impacts during construction (0.63 acre of mixed conifer forest, 0.22 acre of annual brome grassland, 0.11 acre of white alder riparian forest, and 0.13 acre of Jesus Maria Creek).

Habitats and Natural Communities of Special Concern

Table ES-1 presents the acreages of biological communities that occur within the BSA and would be temporarily and permanently impacted due to project construction.

Table ES-1. Temporary and Permanent Impacts to Vegetation Communities/Biological Habitats

Habitat Type	Total (Acres)	Impact		Avoided
		Permanent	Temporary	
Upland				
Mixed conifer forest (<i>Pinus ponderosa-Calocedrus decurrens</i> Forest Alliance)	2.37	0.49	0.63	1.25
Annual brome grassland (<i>Bromus [diandrus, hordaceus] – Brachypodium distachyon</i> Semi-natural Herbaceous Stands)	0.66	0.08	0.22	0.36
White alder riparian forest (<i>Alnus rhombifolia</i> Forest Alliance) ¹	0.30	0.14	0.11	0.05
Graded/paved ²	0.36	--	--	--
Aquatic				
Jesus Maria Creek	0.23	0.07	0.13	0.03
Total	3.92	0.78	1.09	1.69

¹A natural community regulated by California Department of Fish and Wildlife.

²The graded/paved through the study area is areas graded and surfaced for the existing roadway and the existing bridge. These are existing impact areas so no new impacts were calculated.

Natural communities of special concern occurring in the BSA include Jesus Maria Creek and the white alder riparian forest along Jesus Maria Creek. Impacts to waters of the U.S./State are discussed in the following section.

The white alder riparian forest (state ranking of S4) is not listed by CDFW as a natural community of special concern (state ranking of S1-S3); however, riparian vegetation is regulated by CDFW through the Lake and Streambed Alteration program (Fish and Game Code Section 1602) and this community is treated as a natural community of special concern in this report. The project would temporarily impact 0.11 acre and permanently impact 0.14 acre of white alder riparian forest. The County shall obtain authorization for impacts to riparian habitat via the Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement (LSAA) with CDFW. Impacts shall be mitigated in accordance with the LSAA to ensure no net loss of acreage of riparian forest. Permanent impacts to white alder riparian forest shall be mitigated at the discretion of CDFW. .

Waters of the United States/State

The proposed project would temporarily impact 0.13 acre and permanently impact 0.07 acre of waters of the U.S. and State in Jesus Maria Creek. Authorization for impacts to waters of the U.S. would be secured from the U.S. Army Corps of Engineers (USACE) via the Clean Water Act (CWA) Section 404 permitting process prior to project implementation. Because the project would also impact waters of the State, a CWA Section 401 permit would also be required from the Central Valley Regional Water Quality Control Board (CVRWQCB), as well as an LSAA with CDFW.

The County shall obtain authorization from both the USACE, CVRWQCB, and CDFW to fill/disturb these features prior to project implementation.

Impacts shall be mitigated in accordance with agency requirements to ensure no net loss of acreage or functions and values of waters of the U.S. Mitigation for permanent impacts to waters of the U.S. and State in Jesus Maria Creek, if required, will be determined at the discretion of the USACE, CVRWQCB, and CDFW. The area of the creek temporarily impacted from dewatering would be allowed to return to native habitat. Because the creek is minimally vegetated, temporary dewatering would be expected to have a minimal effect on the aquatic habitat. No compensatory mitigation is required for temporary impacts to Jesus Maria Creek.

Special-status Species

A desktop review identified 25 special-status species that could potentially occur in the region. Of these 25 species, four special-status species have the potential to occur in the BSA and be impacted by the proposed project, as well as birds protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code. One of the special-status species is listed as threatened under the Federal Endangered Species Act (FESA), and another is candidate for listing as threatened under the California Endangered Species Act (CESA). The following special-status species have the potential to occur within the BSA and were considered in the impact analysis of this document:

- California red-legged frog (CRLF; *Rana draytonii*), listed as threatened under FESA with critical habitat (none present in the BSA),
- Foothill yellow-legged frog (FYLF; *Rana boylei*), candidate for listing as threatened under CESA,
- Western pond turtle (*Emys marmorata*), CDFW species of special concern,
- Birds protected by the MBTA and Fish and Game Code, and
- Dubious pea (*Lathyrus sulphureus* var. *argillaceus*), listed as California Rare Plant Rank (CRPR) 3 by the California Native Plant Society.

California Red-Legged Frog

The proposed project ***may affect, but is not likely to adversely affect*** CRLF for the following reasons:

- CRLF is not expected to occur in the BSA or be affected by the proposed project. The BSA does not contain potential breeding or non-breeding aquatic habitat or suitable upland/aestivation habitat. There are no records of CRLF in Jesus Maria Creek, and the

nearest known record is from 2003 where this species was documented 11 miles west of the site in a separate creek (Occurrence No. 671; CDFW 2018a).

- Avoidance and minimization measures would be implemented to avoid impacts to CRLF in the unlikely event individuals disperse through the BSA. The avoidance and minimization measures include restricting construction activities to the dry season when the potential dispersal habitat in the BSA would be limited to Jesus Maria Creek.
- The proposed project would result in a maximum of 0.13 acre of temporary impacts to Jesus Maria Creek. Flows in the creek would be restored after construction. Additional areas of temporary impacts to potential dispersal habitat (0.96 acre composed of 0.63 acre of mixed conifer forest, 0.22 acre of annual brome grassland, and 0.11 acre of white alder riparian forest) would be seeded and allowed to return to a natural state following construction and would not result in long-term effects on the quality of the habitat for dispersal.
- The permanent impacts to the creek (0.07 acre) and surrounding uplands (0.71 acre) would not affect the suitability of the BSA for use and dispersal by CRLF. The proposed bridge, new roadway alignment, and the associated improvements to the banks would not hinder or discourage CRLF attempting to disperse through the BSA for the long-term. The permanent impacts would be offset by removal of the existing bridge, abutments, and rock slope protection, and reseeding disturbed areas along the creek banks with native species.

Because the project would not result in a permanent effect on the use of the area for dispersal by CRLF and may result in beneficial effects, the temporary and permanent impacts from the proposed project are negligible. Informal consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Federal Endangered Species Act is anticipated to evaluate project effects to CRLF. A Biological Assessment will be submitted to the USFWS in support of the consultation and it is anticipated that the USFWS will conclude the project may affect and is not likely to adversely affect CRLF. Because the proposed project will replace an existing bridge with a similar bridge through similar habitat and the existing bridge will be removed and the habitat restored where feasible, USFWS has determined no compensatory mitigation is necessary for impacts to CRLF habitat (pers. comm. between Chris Nagano of USFWS, and Dominic Vitali and Haiyan Zhang of Caltrans on May 18, 2016).

The nearest critical habitat for CRLF is approximately 10 miles west of the BSA and is in a separate watershed. The proposed project will have **no effect** on critical habitat.

Foothill Yellow-Legged Frog

The proposed project has the potential to impact the FYLF, a species that is a candidate for listing as threatened under the CESA. FYLF are closely associated with aquatic habitat but may occasionally occur in adjacent riparian habitat within a few meters of water. Potentially suitable habitat for FYLF occurs in the BSA in Jesus Maria Creek which may be used for all life stages and the white alder riparian forest which may be used by the frog for refugia. The proposed project would result in permanent impacts to 0.07 acre and temporary impacts to 0.13 acre of suitable habitat in Jesus Maria Creek. The proposed project would result in permanent impacts to 0.14 acre and

temporary impacts to 0.11 acre of white alder riparian forest immediately adjacent to the creek. Avoidance and minimization measures would be implemented for FYLF and additional measures implemented for CRLF will also benefit FYLF. These measures include conducting preconstruction surveys, timing construction to avoid the wet season, installing temporary exclusionary fencing to prevent FYLF from entering the work site, worker education, biological monitoring, and restoring temporarily impacted areas to native habitat.

Species listed as candidate under CESA are afforded the same protection as those listed as threatened or endangered. As such, projects that would result in take of the species would require an incidental take permit under Section 2081 of the California Fish and Game Code. Because the project is not planned to begin construction until 2020, there is the potential for the species to become either delisted or listed as threatened. The County will coordinate with CDFW regarding the project's potential effects to the species, and if necessary, would obtain an incidental take permit from CDFW prior to construction, and would provide the compensatory mitigation as required by CDFW.

Western Pond Turtle

The proposed project has the potential to impact the western pond turtle, a CDFW species of special concern. Suitable aquatic and terrestrial habitat for western pond turtle occurs in the BSA. The proposed project would result in permanent and temporary impacts to suitable habitat in Jesus Maria Creek and the areas immediately adjacent to the creek. Avoidance and minimization measures would be implemented for western pond turtle and additional measures implemented for CRLF and FYLF will also benefit western pond turtle. These measures include conducting preconstruction surveys, construction timing to avoid the wet season, installing temporary exclusionary fencing to prevent individuals from entering the work site, worker education, biological monitoring, and restoring temporarily impacted areas to native habitat. No compensatory mitigation is required.

Nesting Raptors and Other Migratory Birds

Trees, the riparian area, and the bridge provide potential nesting habitat for birds protected under the MBTA and Fish and Game Code, including raptors. Several species of raptors may nest in trees within and adjacent to the BSA, including great horned owl. Several phoebe nests are located on the underside of the existing bridge. Other passerines may use the trees and shrubs in the BSA for nesting. Potential impacts to raptors and other migratory birds include the loss of nests and habitat, disturbance to nesting birds resulting in harassment, nest abandonment, or death. Avoidance and minimization measures would be implemented for nesting raptors and other migratory birds including conducting preconstruction surveys, timing certain activities to avoid the nesting season, installing temporary fencing to establish a no-disturbance buffer around nests, worker education, and biological monitoring. No compensatory mitigation is required.

Dubious Pea

The project has the potential to affect the dubious pea, a species considered to be rare by the California Native Plant Society. Potentially suitable habitat for dubious pea occurs in the mixed conifer forest. If present, the project has the potential to impact individuals of the species and/or its

habitat. Avoidance and minimization measures include conducting preconstruction surveys, installing temporary exclusion fencing around potential habitat to be avoided, worker education, and restoring temporarily impacted areas to native habitat. No compensatory mitigation is required.

Permits Required

Table ES-2 presents the permits and approvals that would be required for project construction.

Table ES-2. Permits and Approvals Required for Project Construction

Agency	Permit/Approval	Status
<i>Federal</i>		
U.S. Fish and Wildlife Service	Federal Endangered Species Act, Informal Section 7 Consultation for California red-legged frog	Pending
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit for fill of waters of the U.S.	Pending
<i>State</i>		
California Department of Fish and Wildlife	California Fish and Game Code, Section 1600 Streambed Alteration Agreement	Pending
	California Fish and Game Code, Section 2081 Consultation for foothill yellow-legged frog, if not delisted by the year prior to construction	Pending
Central Valley Regional Water Quality Control Board	Clean Water Act, Section 401 Water Quality Certification	Pending
	General Order for Dewatering and other Low-threat Discharge to Surface Waters Permit	Pending
	National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit	Pending

Invasive Species

A total of 22 invasive plant species occurring on the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory were identified in the BSA. Of these species, there are two with an overall high rating, fourteen with a moderate rating, and six with a limited rating. Species with a high rating identified within the BSA are Himalayan blackberry (*Rubus armeniacus*) and yellow-star thistle (*Centaurea solstitialis*). Yellow-star thistle is also federally listed as an invasive species as defined by Executive Order 13112 (USDA 2017).

Avoidance and minimization measures will be implemented to prevent the introduction and spread of invasive species. These measures include cleaning equipment and vehicles to remove dirt and weed

seeds before entering and leaving the site, inspecting material sources and treating for invasive weeds off-site, if needed.

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List of Acronyms

BMPs	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulation
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
CRPR	California Rare Plant Rank
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
EFH	Essential Fish Habitat
FESA	Federal Endangered Species Act
FR	Federal Register
FT	Federal Threatened
FYLF	foothill yellow legged frog
LSAA	Lake and Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act of 1918
NEPA	National Environmental Policy Act
NES	Natural Environment Study

List of Acronyms (cont.)

NOAA	National Oceanographic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
quad	USGS 7.5-minute topographic quadrangle map
ROW	right-of-way
SSC	State Species of Special Concern
SWRCB	California State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Chapter 1 – Introduction

The County of Calaveras, in cooperation with the California Department of Transportation (Caltrans), is planning to replace the existing bridge at Whiskey Slide Road over Jesus Maria Creek (Bridge No. 30C0062) in Calaveras County, California. The County proposes to use federal funds from the Federal Highway Administration (FHWA). The Calaveras County Public Works Department is the local lead agency for California Environmental Quality Act (CEQA) compliance. Caltrans is the lead agency for National Environmental Policy Act (NEPA) compliance.

The purpose of this Natural Environment Study (NES) is to describe the existing biological environment and to determine to what extent the proposed project may affect biological resources. The NES summarizes technical documents and studies (including focused species studies, wetland delineation, and biological assessment) related to biological resources that may be impacted.

1.1 Project History

The bridge and roadway in the project area experiences a low traffic volume and primarily services local traffic, consisting primarily of local residents. The average daily traffic volume is approximately 93 vehicles. The primary purpose of the project is to eliminate substandard load limits of the existing bridge and to bring the bridge up to current geometrical and structural standards. In a routine bridge inspection report completed by Caltrans in 2010, the existing bridge was given a sufficiency rating of 35.1 out of 100 and a status of structurally deficient. A structurally deficient status is defined as a bridge that has one or more structural defects that require attention; however, it does not indicate the severity of the defect but rather that a defect is present. Structurally deficient can indicate the bridge needs repairs to prevent minor problems such as minor cracks, erosion, peeling paint, from becoming more serious.

The proposed project is needed to provide residents, motorists, pedestrians and emergency vehicles a safe, all-weather path of travel across Jesus Maria Creek. Without improvements, the bridge's structurally deficient condition is expected to deteriorate. The proposed project would ultimately create a safer bridge.

1.2 Project Description

1.2.1 Project Location

The Whiskey Slide Road over Jesus Maria Creek bridge is located in unincorporated, central Calaveras County. The bridge is approximately 2.5 miles southeast of the intersection of Whiskey Slide Road with Jesus Maria Road, and approximately 3.5 miles northwest of the intersection of Whiskey Slide Road with Mountain Ranch Road in the town of Mountain Ranch, California. State Route (SR) 49 is approximately 7.3 miles west of the project site. The project is located in Section 30 of Township 5 North and Range 13 East of the U.S. Geological Survey (USGS) 7.5-minute "Rail Road Flat, CA" topographic quadrangle. **Figure 1** in **Appendix A** is a site and vicinity map. **Figure 2** in **Appendix A** is an aerial photograph of the project site.

1.2.2 Project Design

The existing bridge is a single-span steel girder structure with a concrete deck. It is supported on reinforced concrete abutments founded on spread footings on bedrock, with reinforced concrete wingwalls. The bridge is approximately 42 feet long and 14.4 feet wide. From the south, the existing roadway approaches Jesus Maria Creek from the southwest and then crosses over the creek via the bridge which is at a slight skew to the flow of the creek. North of the bridge, the roadway turns northwesterly in an approximately 90 degree turn and continues to the northwest. In the project area, Whiskey Slide Road is a rural local road in mountainous terrain with a 10 to 11-foot-wide paved roadway and narrow shoulders. The roadway features substandard widths, curve radii and sight distances. Two alternatives were considered for the project: a Build Alternative (Alternative 1) and a No-Build Alternative (Alternative 2). A rehabilitation alternative was eliminated from further consideration due to the need to bring the bridge and its approaches up to current geometrical and structural standards.

Alternative 1 – Build Alternative

The Build Alternative is the proposed project and consists of removing the existing bridge over Jesus Maria Creek and replacing it with a new bridge crossing the creek approximately 30 feet west of the existing bridge alignment. Whiskey Slide Road would be realigned and widened at the bridge approaches to accommodate the new bridge. The project design is **Figure 3** in **Appendix A**.

The new bridge would be an approximately 60-foot-long, 23.3-foot-wide cast-in-place or precast concrete single-span bridge or two-span standard slab bridge supported in the creek on a pier wall. The bridge would feature a 20-foot-wide travel way between two traffic barriers. The vertical profile of the new bridge would be approximately 6 feet higher than the existing bridge deck. Reinforced concrete, seat-type abutments founded on spread footings would be constructed in each creek bank.

The approach improvements would extend approximately 220 feet from the bridge to the south along a generally tangent alignment and 350 feet from the bridge to the north along the curved alignment. Whiskey Slide Road would be raised, widened, and realigned along the bridge approaches to accommodate the new bridge. The vertical profile and horizontal alignment would gradually conform back into the existing roadway at the project limits. The roadway width at the new approaches would transition from a 14-foot-wide to a 20-foot-wide travel way with guardrails along the edges of roadway. At the curves, the interior shoulder would increase an additional 3 feet for trailer off-tracking. Fill would be placed, and the slopes regraded to create stable embankments on either side of the creek where the land currently slopes down to the creek, including at the existing abutment locations. The newly formed embankments and existing creek banks will be regraded from approximately 210 feet downstream (west) and 100 feet upstream (east) of the new crossing to achieve a maximum 1.5:1 to 2:1 slope. Exposed slopes below and adjacent to the new bridge will be protected by rock slope protection placed within the 100-year floodplain. A keyway (involving the placement of rock slope protection below grade) will be excavated in stable material at the base of each of the newly formed embankments to reinforce the toe of the slope. Additional seeding and other soil stabilization measures may be applied along the creek banks for up to 200 feet in either direction from the bridge to limit erosion. A short length of retaining wall or other earth retaining

system would be constructed along the south-west bridge approach due to the steep channel banks and roadway realignment.

A design speed of 20 miles per hour along Whiskey Slide Road would be provided throughout the extents of the project limits. The existing road has an unposted speed limit. Existing driveways accessing the road from adjacent private properties would be restored to provide access to Whiskey Slide Road. As described below, traffic would be maintained through the project site during construction. Temporary shoring may be needed to keep fill outside of the traveled way. This may include a temporary wrapped-face embankment or other temporary support method.

Construction Phasing and Traffic Management

The project would be constructed over two construction seasons in multiple stages. To minimize environmental impacts to the creek, in-creek construction activities would occur during the dry season (i.e., approximately May 15 to October 15 of each year, depending on precipitation). During the first construction stage, the staging areas and footprint of the new bridge and approaches would be cleared, the segments of the existing Whiskey Slide Road at the proposed tie-ins would be constructed, and temporary conforms to the existing road would be constructed. During the second construction stage, the new roadway embankments would be built up and a portion of the rock slope protection placed, the new bridge footings and abutments would be constructed, the new bridge superstructure constructed, and the approach roadway surfaces would be constructed. A tie-in to the existing driveway accessing Whiskey Slide Road from the west would also be constructed. During the third stage, the tie-in to the existing driveways accessing Whiskey Slide Road from the east would be constructed. In the final stage, the existing bridge and roadway approaches would be dismantled and removed and the existing abutment locations would be regraded into stable embankments, and the remaining rock slope protection placed.

During the first two construction stages, traffic would be maintained on the existing bridge and roadway. Following construction of the new roadway and bridge, traffic would be shifted to the new bridge and the third stage new driveway tie-ins would then be constructed and the existing bridge and approaches would be removed. No detours would be required during project construction, and the roadway and bridge crossing would remain open throughout construction. Traffic disruptions through the project limits would be minimized by staging construction of the roadway approaches to maintain, at a minimum, a single lane of through traffic throughout the duration of construction.

Project Impact Area and Ground Disturbing Activities

The project site is approximately 3.92 acres, with approximately 1.09 acres of ground disturbance anticipated to occur. Ground disturbing activities include clearing and grubbing all work areas, grading and leveling of the staging areas, roadway excavation along the bridge approaches and driveway reconnections, placing fill into the channel along the regraded embankments, installing rock slope protection, and removal of the existing bridge. Deeper excavation associated with constructing the bridge abutments, the retaining wall, and rock slope protection keyway will occur at the site of the bridge crossing. The spread footings of the abutments, retaining wall foundations, and the rock slope protection keyway are assumed to be placed on competent rock material. The competent material elevation is uncertain, and additional excavation may be required during

construction if competent materials is not found at the prescribed bottom of footings, foundations, and keyway. Excavation for these elements would not exceed 20 feet in depth.

The project would result in approximately 0.78 acre of permanently affected area associated with construction of the new bridge, and approximately 1.09 acres of temporary impact associated with ground disturbance during construction.

Construction activities within the ordinary high water mark and over the creek channel include water diversion measures, bridge removal and debris containment, falsework and construction access, and construction activities as follows:

- Water diversion/dewatering will be required in Jesus Maria Creek for approximately 150 feet to allow construction of the new creek banks and bridge, and removal of the existing bridge. The extent and depth of the diversion measures will be dependent upon the seasonal fluctuation in the water surface elevation and may not be required during low flow or drought conditions. The work zone would likely be dewatered by installing a combination of physical barrier measures using temporary (k-rail) barriers, gravel sacks, bladders, or poly-plastic sheathing to achieve a water tight barrier, and by directing flows through the work area in a pipe. The use of sheet piling is not anticipated due to the near surface bedrock layers. Water trapped by the diversion measures or percolated through the faces of excavation will be removed and treated by settlement tanks or other measures prior to discharge. Water diversion/dewatering measures will be removed at the completion of the project.
- Demolition and removal of the existing bridge will be completed from within the dewatered work zone in the creek and from the top of the channel banks. The existing bridge deck and steel girders will be cut free at the abutments and lifted out with a crane. An excavator equipped with a bucket or an excavator with a hammer will be used to break up and remove the abutments. The water diversion physical barriers will act to prevent construction debris from the channel banks from entering the water. Debris containment methods (e.g. barrier nets attached to the bottom of the existing bridge) will be utilized during removal of the old bridge span to prevent construction material or debris from entering the water or other identified sensitive habitats. The existing bridge span, concrete, rebar, and railings would be disposed of offsite at an appropriate disposal or re-use facility.
- Falsework, consisting of temporary towers and spans supporting the bridge concrete forms, will be erected at each toe of slope and would span the creek channel. Support towers and concrete forms will be erected within the dewatered areas, and no other support towers will be required in the channel. The bridge concrete forms supported on falsework beams will span between support towers and over the channel. Construction access ramps will be constructed from the existing roadway surfaces down to the creek. Ramps will likely be earthen fill graded to provide suitable access. Access for construction equipment and personnel across the creek channel will be provided by the existing bridge or a temporary access trestle. The ends or other support points for a temporary access trestle will be set within the water diversion area and would clear span the creek channel.

Construction activities within the water diversion areas will include grading and placing of fill for roadway embankments, excavation for bridge abutments and rock slope protection, form-reinforce-

pour activities for the bridge abutments, and placement of rock slope protection. Construction activities over the creek channel will be completed from the falsework span and include form-reinforce-pour activities for the bridge superstructure and barriers. Concrete forms are considered watertight to allow placement of wet concrete and to contain the concrete until hardened.

Right-of-Way

The project site is comprised of portions of Assessor Parcel Numbers (APNs) 021-001-045 and 021-001-046 which are privately owned. The existing roadway and bridge pass through the parcels within an approximately 30-foot-wide implied dedication easement. Approximately 0.50 acre of new right-of-way (ROW) is anticipated to accommodate the replacement bridge and its roadway approaches within a 60-foot-wide easement. The ROW would come from APN 021-001-046, in which the majority of the site is located. Approximately 0.1 acre from the existing roadway easement will be removed from County maintenance and control and returned to the private land owner's control following project construction.

Utilities

Existing overhead Pacific Gas & Electricity lines cross the project site and would be relocated.

Construction Staging Area

Access points, materials storage, and staging areas have been identified within the project site. Two staging areas are proposed and both would be located on APN 021-001-046. An approximately 0.07 acre staging area is proposed in the northeast portion of the project site. It would consist of a partially cleared area south of the existing driveway. This staging area would be accessed by the existing driveway. Another approximately 0.12 acre staging area is proposed east of Whiskey Slide Road, in a pasture/lawn. The existing fence between the pasture/lawn would be removed and the staging area would be accessed directly from Whiskey Slide Road.

Project Schedule

Project construction is anticipated to begin in May of 2020 and is anticipated to be complete in October of 2021.

Alternative 2 – No Build Alternative

Under the No-Build Alternative, the project would not be constructed, and the existing bridge structure would remain structurally deficient. Under the No-Build Alternative, the identified deficiencies would not be addressed and the purpose and need of the project would not be achieved. Worsening structural deficiencies in the bridge would ultimately create an unsafe condition and critically impair use of Whiskey Slide Road by local residents and emergency responders.

Chapter 2 – Study Methods

This section describes the methods used to determine the potential for special-status species or their habitat to be present within or adjacent to the project site, including the biological studies that were conducted in support of this NES, the rationale behind the studies, and how and when the studies were conducted.

2.1 Regulatory Requirements

2.1.1 Federal Laws and Regulations

National Environmental Policy Act

NEPA requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts (40 Code of Federal Regulations [CFR] Parts 1500-1508).

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) enforce the provisions stipulated within the Federal Endangered Species Act of 1973 (FESA, 16 USC Section 1531 *et seq.* Species identified as federally threatened or endangered (50 CFR 17.11, and 17.12) are protected from take, defined as direct or indirect harm, unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed species may be present in the study area and determine whether the proposed project will have a potentially adverse effect upon such species. Under FESA, habitat loss is considered to be an impact to a species. In addition, the USFWS is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under FESA or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536 (a)[3], [4]). Therefore, project's impacts to these species or their habitats would be considered significant and would require mitigation. Other federal agencies designate species of concern (species that have the potential to become listed), which are evaluated during environmental review although they are not otherwise protected under FESA. Project related impacts to such species would also be considered an adverse effect and may require mitigation.

Executive Order 13186: Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act of 1918 (MBTA; 16 USC Subsection 703-712), migratory bird species and their nests and eggs are protected from injury or death; these species are listed on the federal list (50 CFR Section 10.13). This treaty with Canada, Mexico and Japan makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season.

Executive Order 13112: Invasive Species Prevention

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 plants that must be considered as part of the NEPA analysis for a proposed project.

Under the EO, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

Clean Water Act (33 USC 1251-1376).

Any person, firm, or agency planning to alter or work in “waters of the U.S.”, including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403).

Waters of the U.S. are defined as: all waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams, mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters (33 CFR Part 328). With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the Ordinary High Water Mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined in 33 CFR Part 328 as:

those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 of the CWA requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California, and may require State Water Quality Certification before other permits are issued.

Section 402 of the CWA establishes a permitting system for the discharge of any pollutant (except dredge or fill material) into waters of the U.S.

Section 404 of the CWA establishes a permit program administered by USACE regulating the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative that would have less adverse impacts.

Executive Order 11990: Protection of Wetlands

This executive order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. Specifically, it directs federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. A project that encroaches on wetlands may not be undertaken unless the agency has determined that: (1) there are no practicable alternatives to construction; (2) the project includes all practicable measures to minimize harm to wetlands affected; and, (3) the impact will be minor. The U. S. Department of Transportation (USDOT) promulgated USDOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding in the final environmental document. An additional requirement is to provide early public involvement in projects affecting wetlands. The FHWA provides technical assistance in meeting these criteria (FHWA Technical Advisory 6640.8A) and reviews environmental documents for compliance.

Fish and Wildlife Coordination Act (16 USC 661-666).

This act applies to any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with USFWS and the appropriate state wildlife agency. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. The term "wildlife" includes both animals and plants. Provisions of the act are implemented through the NEPA process and CWA Section 404 permit process.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (Magnuson-Stevens Act) 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.

The Magnuson-Stevens Act requires that all federal agencies consult with NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat (EFH). EFH is defined as waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The Magnuson-Stevens Act states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase “adversely affect” refers to the creation of any impact that reduces the quality or quantity of EFH. Federal activities that occur outside of EFH, but which may have an impact on EFH must be considered in the consultation process. The Magnuson-Stevens Act applies to Pacific salmon, groundfish, and several pelagic species found in the Pacific.

2.1.2 State Laws and Regulations

California Environmental Quality Act

Under the CEQA of 1970 (Public Resources Code Section 21000 et seq.), lead agencies analyze whether projects would have a substantial adverse effect on a candidate, sensitive, or special status species (Public Resources Code Section 21001(c)). These “special-status” species generally include those listed under FESA and California Endangered Species Act (CESA), and species that are not currently protected by statute or regulation, but would be considered rare, threatened, or endangered under the criteria included CEQA Guidelines Section 15380. Therefore, species that are considered rare are addressed in this study regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants ranked as 1A, 1B, 2, and 3 are generally considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Endangered Species Act

The CESA (California Fish and Game Code Sections 2050 to 2097) is similar to the FESA. The California Fish and Wildlife Commission is responsible for maintaining lists of threatened and endangered species under the CESA. CESA prohibits the take of listed and candidate (petitioned to be listed) species. “Take” under California law means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch capture, or kill (California Fish and Game Code, Section 86). California Department of Fish and Wildlife (CDFW) can authorize take of a state-listed species under

Section 2081 of the California Fish and Game Code if the take is incidental to an otherwise lawful activity, the impacts are minimized and fully mitigated, funding is ensured to implement and monitor mitigation measures, and CDFW determines that issuance would not jeopardize the continued existence of the species. A CESA permit must be obtained if a project will result in the take of listed species, either during construction or over the life of the project. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

California Code of Regulations Title 14 and California Fish and Game Code

The official listing of endangered and threatened animals and plants is contained in the California Code of Regulations Title 14 § 670.5. A state candidate species is one that the California Fish and Game Code has formally noticed as being under review by CDFW to include in the state list pursuant to Sections 2074.2 and 2075.5 of the California Fish and Game Code.

Legal protection is also provided for wildlife species in California that are identified as "fully protected animals." These species are protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species at any time. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by these species. CDFW has informed non-federal agencies and private parties that they must avoid take of any fully protected species in carrying out projects. However, the recently signed Senate Bill 618 (2011) allows the CDFW to issue permits authorizing the incidental take of fully protected species under the CESA, so long as any such take authorization is issued in conjunction with the approval of a Natural Community Conservation Plan that covers the fully protected species (California Fish and Game Code Section 2835).

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code Sections 1900-1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use (other than changing from one agricultural use to another), which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting Birds

California Fish and Game Code Subsections 3503 and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Subsection 3503.5 protects all birds in the orders of Falconiformes and Strigiformes (birds of prey). California Fish and Game Code Section 3511 lists birds that are "fully protected." those that may not be taken or possessed except under specific permit.

California Food and Agriculture Code

Section 403 of the California Department of Food and Agriculture (CDFA) Code directs the CDFA to prevent the introduction and spread of injurious pests including noxious weeds.

CDFA Code Section 7271 designates the CDFA as the lead department in noxious weed management responsible for implementing state laws concerning noxious weeds. Representing a statewide program, noxious weed management laws and regulations are enforced locally in cooperation with the County Agricultural Commissioner.

Under state law, noxious weeds include any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate, which the director, by regulation, designates to be a noxious weed (CDFA Code Section 5004).

Oak Woodlands Conservation Act

Pursuant to Section 21083.4 of the Public Resources Code, Counties are required to determine whether a project within its jurisdiction may result in a conversion of oak woodlands that would have a significant effect on the environment, and to mitigate the significant effects to oak woodlands. Section 1361 of the Fish and Game Code defines oak woodland as a stand of native oaks with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover. Section 21083.4 defines oaks as a native *Quercus* that is 5 inches or more in diameter at breast height. Section 21083.4 identifies various measures that may be used to mitigate the impacts of development on the oak woodland, including conservation through the creation of conservation easements, replanting an appropriate number of trees, restoration of former oak woodlands, and the contribution of funds to the California Woodland Conservation Fund.

Senate Concurrent Resolution No. 17: Oak Woodlands

Passed in September 1989, this resolution requests State agencies to preserve and protect native oak woodlands and to provide for replacement plantings whenever Blue, Engelmann, Valley or Coast Live Oak are removed from native woodlands. For purposes of this measure, “oak woodlands” means a five-acre circular area containing five or more oak trees per acre.

Porter-Cologne Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California’s statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the State Water Resources Control Board (SWRCB) and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollutant Discharge Elimination System (NPDES) permits, CWA Section 401 water quality certifications, or other approvals. The term “waters of the state” is

defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” RWQCB protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the USACE under Section 404. “Waters of the state” are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of fill and dredged material under CWA Section 401 and the Porter-Cologne Water Quality Control Act. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the state, are required to comply with the terms of the State Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to waters of the state, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

California Fish and Game Code Section 1602- Lake and Streambed Alteration Program

Diversions or obstructions of the natural flow of, or substantial changes or use of material from the bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW, pursuant to Section 1602 of the California Fish and Game Code. The CDFW requires notification prior to commencement of any such activities, and a Lake and Streambed Alteration Agreement (LSAA) pursuant to Fish and Game Code Sections 1601-1603, if the activity may substantially adversely affect an existing fish and wildlife resource. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project modifications to protect the resource. The modifications are formalized in the LSAA which becomes part of the project plans, specifications, and bid documents.

2.2 Studies Required

2.2.1 Special-Status Species Evaluation

Definition of Special-Status Species

Special-status plant and animal species are those that are afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and generally require specialized habitat conditions.

Listed and special-status species are defined as:

- Species listed or proposed for listing as threatened or endangered under FESA or CESA.
- Species considered as candidates for listing as threatened or endangered under FESA or CESA.
- Plants listed as endangered or rare under the California Native Plant Protection Act including California Rare Plant Rank (CRPR) 1A (plants presumed extirpated in California and either rare or extinct elsewhere), CRPR 1B, (plants, rare, threatened, or endangered in California and elsewhere), CRPR 2A (plants presumed extirpated in California, but common

elsewhere), CRPR 2B (plants rare, threatened or endangered in California but more common elsewhere), or CRPR 3 (Needs review).

- Species identified by the CDFW as a Species of Special Concern.
- Wildlife fully protected in California under the California Fish and Game Code.
- Species that otherwise meet the definition of rare or endangered under the CEQA (14 CCR § 15380).

Literature Search

Special-status plants and wildlife documented by the California Natural Diversity Database (CNDDDB; CDFW 2018a) provide the main source of information regarding potential special-status species in the project area. Other sources of information include CNPS (CNPS 2018) and the USFWS (USFWS 2018).

Lists of special-status species known to occur and/or having the potential to occur in the project region were reviewed for the potential to occur in the project site in May 2013 prior to the initiation of biological surveys. The lists were updated in September and October 2016, and in December 2017 in preparation of this document. The following lists were reviewed for special-status species and are included in **Appendix B**:

- USFWS list of federally protected species with the potential to be affected by the project (USFWS 2018).
- CNPS list of special-status plants with reported occurrences on the “Rail Road Flat, CA” USGS 7.5-minute topographic quadrangle (quad) and the eight surrounding quads (CNPS 2018).
- CNDDDB list of special-status species with reported occurrences in the “Rail Road Flat, CA” USGS quad and the eight surrounding quads maintained by the CDFW (CDFW 2018a).

The Spotted Owl Observation Database maintained by CDFW was also reviewed for occurrences of California spotted-owl in the vicinity of the project (CDFW 2018b).

Table 3 in Section 3.2.2, *Regionally-Occurring Special-Status Species*, presents for each species included on the lists: 1) the general habitat requirements, 2) status, 3) the presence or absence of suitable habitat, and 4) rationale for the potential for the species to occur. The bloom period for each rare plant is also identified. Regionally-occurring special-status species determined to have no suitable habitat and no potential to occur in the project site or otherwise be impacted by the proposed project were excluded from further evaluation. Species having the potential to occur in the project site or otherwise be impacted by the proposed project are evaluated in detail in Chapter 4.

2.2.2 Biological Surveys and Mapping Methods

Biological surveys conducted for the proposed project included general biological surveys (which included habitat mapping), rare plant surveys, a California red-legged frog (CRLF; *Rana draytonii*)

habitat assessment according to USFWS protocol, a delineation of wetlands and other waters of the U.S. and State, and an oak tree inventory. These surveys are discussed in detail below.

General Biological Surveys and Habitat Mapping

General biological surveys of the project site were conducted to document the existing biological conditions in the project site, including the existing biological communities and plant and animal species present, as well as to determine whether the habitats on the project site had the potential to support special-status species. Biological surveys were conducted by biologists with extensive experience performing biological surveys in the region.

Biological communities/habitat types were characterized based on the composition of dominant plant species. The limits of biological communities/habitats were determined by pedestrian reconnaissance while noting the change in the habitat based on the composition of dominant plant species. The boundaries of the habitats were delineated in the field using a Trimble GeoXT® sub-meter accurate global positioning system (GPS) and supplemented by notes written on aerial maps. Each habitat was evaluated for suitability to support regionally-occurring special-status species. An inventory of plant and wildlife species observed was also conducted during each site visit. The list of plant and wildlife species observed in the project site is included as **Appendix C**.

Rare Plant Surveys

Focused botanical surveys were conducted during the blooming periods for special-status plants with the potential to occur in the project region. All plant species encountered during the surveys were identified to the taxonomic level necessary to determine whether or not they were special-status species. Plants were identified consistent with the most recent version of *The Jepson Manual: Vascular Plants of California* (Baldwin, ed., et al. 2012).

California Red-Legged Frog Habitat Assessment

The project site and areas within a one-mile radius were reviewed for the potential for CRLF to occur and a habitat assessment was conducted according to the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). The CNDDDB (CDFW 2018a) and the *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* (USFWS 2002) were reviewed for information regarding known existing and historic populations of CRLF in the project region. A listing of other information sources reviewed prior to conducting the field assessment is provided below:

- USGS “Rail Road Flat, CA” quad map;
- Aerial photography of the project site (ESRI World Imagery June 24, 2014);
- National Wetland Inventory (NWI) map for the project site and vicinity from the Wetlands Online Mapper (USFWS 2014);
- USFWS online species information for CRLF (USFWS 2010b); and

- History and Status of the California Red-Legged Frog (*Rana draytonii*) in the Sierra Nevada, California, USA (Barry and Fellers 2013).

Three criteria were used to assess the likelihood of CRLF presence in or within the vicinity of the project site: (1) the location of the project site with respect to the current and historic range of CRLF, (2) the presence/absence of known records of CRLF within one mile of the project site, and (3) the habitat types occurring within the project site and within a one-mile radius.

The habitat assessment for CRLF was conducted on November 16, 2014 by HELIX biologists, Stephen Stringer, M.S. and Catherine Silvester. All known on- and off-site aquatic habitats were identified prior to the site visit using aerial photography, NWI data, and the USGS quad map for the project site. The surveyors attempted to access all aquatic habitats within the one-mile radius and all publicly accessible aquatic habitats were surveyed. The habitat suitability of all aquatic features and their associated terrestrial habitats were assessed for potential to support CRLF. Aquatic habitats within one-mile of the project site that were not publicly accessible were characterized as thoroughly as possible by roadside observations, observations from adjacent accessible properties, and aerial photos. Suitability of habitat was assessed based on characteristics of CRLF breeding and dispersal habitat as described in the USFWS Revised Guidance (USFWS 2005). Habitats were determined to meet the criteria for suitable CRLF breeding habitat if they appeared to contain water through the summer months to at least 2.3 feet deep, had still or slow moving water, and had some degree of emergent vegetation (Jennings and Hayes 1994). See **Appendix D** for the CRLF site assessment report (HELIX 2016).

Note that the project site/BSA depicted in the site assessment is slightly smaller than the current BSA (3.91 acres in the site assessment versus the current 3.92-acre BSA). Following the November 16, 2014 site assessment, the project limits were expanded based on subsequent engineering studies. As a result, the footprint also extends approximately 55 feet downstream from the previous project limit. The extents are within the area previously evaluated during the November 2014 site assessment, so no additional evaluation based on the footprint expansion is required and the CRLF site assessment was not revised. The project site was visited again on November 11, 2015 by Catherine Silvester, following the Butte Fire that burned the area during the summer of 2015. While upland habitats south of the bridge were substantially burned, the riparian habitat was not significantly altered. The fire did not affect the habitats in the creek in such a way that would render the data collected in 2014 unsuitable for the habitat assessment.

Delineation of Jurisdictional Waters

A delineation was prepared to document potential wetlands and other waters of the U.S. and State subject to USACE and RWQCB jurisdiction under Sections 404 and 401 of the CWA and waters subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code (HELIX 2017). The jurisdictional delineation for the project site was accomplished by a field delineation on May 23, 2013 and office-based mapping, data gathering, and final delineation. Fieldwork for the jurisdictional delineation was conducted by HELIX biologists, Stephen Stringer, M.S., and Catherine Silvester. The project site was visited again on November 11, 2015 by Catherine Silvester to assess the conditions of the site. No changes had occurred in the project site that would render the data collected in May 2013 for the delineation unsuitable. The delineation was conducted in accordance

with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008).

Vegetation, soils, and hydrologic characteristics were visually assessed during the field delineation by walking pedestrian transects to obtain 100 percent visual coverage of the site. The limits of potential waters of the U.S. were mapped in the field using a Trimble GeoXT® sub-meter accurate GPS and color aerial photo base maps at a scale of 1 inch = 100 feet. These data were exported into ArcMap 10® and corrected and then used to produce the map of potential waters of the U.S. and to calculate the acreage of potential waters of the U.S. at the site. The surrounding topography and tree cover along Jesus Maria Creek prevented the GPS from collecting accurate data. Therefore, the width of the creek from OHWM to OHWM was collected at regular intervals through the project site. This information was used along with topographic survey data to delineate the limits of potential waters of the U.S. in Jesus Maria Creek.

The three-parameter method was used to determine the presence of wetlands, which involves identifying indicators of hydrophytic vegetation, hydric soils, and wetland hydrology according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008) and the most recent available *Arid West Regional Wetland Plant List* at the time of the delineation (Lichvar et al. 2014). A review of recent updates to the Arid West Regional Plant List was conducted to determine whether any such updates would affect the results of the delineation. Updates to the plant list did not affect the results of the delineation and no modifications to the delineation were warranted.

Arborist Survey

An inventory of oak trees was conducted on July 28, 2016 by International Society of Arboriculture (ISA) Certified Arborist Stephen Stringer, M.S. (WE-7129A), Noosheen Pouya, and Lesley Scheuber. The limits of the inventory included all areas within the project footprint and an approximately 25-foot-wide buffer (refer to Attachment B of the oak tree inventory report in **Appendix E**). All oak trees at least 5 inches in diameter at breast height within the survey limits were tagged and assessed in detail. The diameter of each oak tree was measured at approximately 4 feet above ground level using a diameter logger's tape measure.

The locations of oak trees were recorded using a Trimble GeoXH GPS. For each oak tree recorded, the species, trunk diameter, height, dripline and vigor were recorded on a data sheet. Each tree was evaluated for vigor and assigned a category ranging from poor (likely to die within 5 years) to fair (dead branches, burns, rots, insects, etc.; but will survive more than 5 years). Comments such as fire damage, irregularities, scars or other growth characteristics or vigor indicators were recorded for each oak tree. Refer to **Appendix E** for the oak tree inventory report.

2.3 Biological Study Area

The project site includes all areas that would be permanently or temporarily impacted by the proposed project and is large enough to accommodate any changes to project limits and project design that may occur during project development. The project site was developed with the

coordination of the project engineers and the biological resources technical staff to include all project elements and activities as well as potential effects. It incorporates a minimum 25-foot buffer from the project construction limits to incorporate potential direct and indirect impacts. Therefore, the Biological Study Area (BSA) is equivalent to the project site and these terms are used interchangeably. The BSA is approximately 3.92 acres and the project footprint, including the staging area, limits of grading, and a 25-foot-wide temporary impact buffer, would cover 1.87 acres. The project site/BSA is shown on **Figures 2-5** in **Appendix A**.

2.4 Personnel and Survey Dates

Surveys conducted for the proposed project are summarized in **Table 1**.

Table 1. Survey Dates, Personnel, and Tasks Performed

Survey Dates	Personnel	Tasks Performed
May 23, 2013	Stephen Stringer Catherine Silvester Charles Hughes (Sycamore Environmental Consultants, Inc.)	Wetland delineation General biological survey Botanical survey Habitat mapping
November 16, 2014	Stephen Stringer Catherine Silvester	California red-legged frog habitat assessment
November 11, 2015	Catherine Silvester	Wetland delineation revisit General biological survey revisit Habitat mapping revisit
July 28, 2016	Stephen Stringer Lesley Scheuber Noosheen Pouya	General biological survey revisit; Arborist survey

Note: All personnel are HELIX staff unless otherwise noted.

Mr. Stringer holds a B.S. in Biological Conservation and M.S. in Biological Sciences (emphasis in Conservation Biology) from California State University, Sacramento. He has approximately 15 years of experience in the public and private sector conducting biological, botanical, and wetland studies in support of CEQA/NEPA documentation and aquatic resources issues. Mr. Stringer holds a USFWS Section 10(a)(1)(A) Recovery Permit (TE-141359-3) for federally-listed vernal pool branchiopods throughout the range of the species in California and Oregon and for the Central Valley Distinct Population Segment of California tiger salamander. He is also an ISA Certified Arborist (WE-7129A). His biological survey experience includes conducting general biological surveys, botanical surveys, arborist surveys, and wetland delineations, as well as USFWS protocol surveys for species such as federally-listed vernal pool branchiopods, CRLF, and Valley elderberry longhorn beetle. He also conducts surveys for other special-status species, including western burrowing owl, Swainson's hawk, and other raptors and migratory birds. Prior to working in the private sector, Mr. Stringer worked for CDFW as a Scientific Aide and as an independent researcher. While working for CDFW, Mr. Stringer conducted aquatic ecology and fisheries management research for four years under a grant he obtained from the CDFW.

Ms. Silvester holds a B.A. in Biology from Augustana College, Rock Island, Illinois. She has ten years of experience conducting biological, botanical, and wetland studies in support of CEQA/NEPA documentation. She holds a CDFW Scientific Collecting Permit (#D-0006494248-7) and a CDFW Rare, Threatened, and Endangered Plant Voucher Collecting Permit (2081(a)-12-91-V). Her biological survey experience includes conducting general biological surveys, botanical surveys, wetland delineations and sensitive plant surveys. She has assisted with USFWS protocol surveys for federally-listed vernal pool branchiopods, CRLF, and Valley elderberry longhorn beetle.

Mr. Hughes holds a B.S. from the University of California at Davis in environmental horticulture and urban forestry, with an emphasis in plant biodiversity and an M.S. in Plant Biology from Michigan State University, East Lansing, Michigan. He has over 15 years of experience preparing biological/botanical resource evaluations, wetland delineations, arborist reports, impact analyses, and mitigation/restoration plans. He is a Professional Wetland Scientist (#2029) and ISA Certified Arborist (WE06885A) with a tree risk assessment qualification. He holds a CDFW Rare, Threatened and Endangered Plant Voucher Collecting Permit 92081(a)-12-16-V), is a Principal Scientific Investigator on the CDFW Scientific Collecting Permit (SC-7617), and is authorized on a USFWS recovery permit for listed vernal pool branchiopods (TE 799564-4).

Ms. Scheuber is an Environmental Planner with four years of experience in CEQA and NEPA document preparation. Ms. Scheuber provides environmental impact analysis for transportation, commercial/residential development, infrastructure improvement, and other state/federally funded projects. Ms. Scheuber assists in the preparation and review of CEQA/NEPA documentation, providing further support for CWA permitting and biological surveys and assessments.

Ms. Pouya is an Environmental Planner and GIS specialist with four years of experience in CEQA document preparation, and provides GIS services for projects impacting environmental, biological, and other sensitive resources. She conducts database research on special status species' biology, habitat, and distribution. She uses GIS to prepare figures for biological and permitting documents such as project location maps, aerial photograph exhibits, habitat maps, CNDDB proximity maps, wetlands/waters delineation maps, and impact analysis maps. Additional skills include preparing relevant documents for transportation, residential, commercial and other development projects, in compliance with CEQA guidelines.

2.5 Agency Coordination and Professional Contacts

2.5.1 U.S. Fish and Wildlife Service

Prior to conducting fieldwork, HELIX obtained a list of federally-listed species known to occur and/or having the potential to occur in the BSA from the USFWS online database. The lists are updated regularly and HELIX has continued to review the most recently updated information available throughout the process (USFWS 2018). Refer to **Appendix B** for the most current official species list generated from the USFWS Information for Planning and Conservation database.

On May 18, 2016, Dominic Vitali and Haiyan Zhang from Caltrans District 10 accompanied Chris Nagano from the USFWS on a field visit to the project site. It was then determined by the USFWS that formal Section 7 consultation would be required for the CRLF and a biological assessment

would need to be prepared. Also during the meeting, USFWS indicated that because the proposed project would replace an existing bridge with a similar bridge through similar habitat and the existing bridge would be removed and the habitat restored where feasible, USFWS has determined no compensatory mitigation is necessary for impacts to CRLF habitat (pers. comm. between Chris Nagano of USFWS, and Dominic Vitali and Haiyan Zhang of Caltrans on May 18, 2016).

During coordination between Caltrans and the USFWS in March of 2017 on separate, but similar Calaveras County projects, it was determined that project consultation on CRLF could reasonably be conducted under a *may affect, but is not likely to adversely affect* finding if proper justification using the best available scientific and commercial data could be provided. Due to this recent development and the best available scientific and commercial data available for the project, the finding for CRLF was changed to *may affect, but is not likely to adversely affect*.

2.5.2 National Marine Fisheries Service

The National Oceanic and Atmospheric Agency (NOAA) online California Species List Tool was used to determine the presence of fish species, Critical Habitat and EFH for fish, including salmon in the topographic quads in which Jesus Maria Creek is located - "Rail Road Flat, CA" and "Fort Mountain, CA" USGS quads (NOAA 2018). Jesus Maria Creek does not occur within the range, distribution or evolutionarily significant unit of any federally-listed fish, nor does it contain designated Critical Habitat for any federally-listed fish species or EFH.

2.5.3 California Department of Fish and Wildlife

HELIX obtained the CDFW CNDDDB list of special-status species (CDFW 2018a) for the "Rail Road Flat, CA" USGS quad and the eight surrounding quads well as the CNPS list of special-status plants for those same nine quads (CNPS 2018). These most currently generated lists are included in **Appendix B**.

2.5.4 U.S. Army Corps of Engineers

The preliminary delineation of wetlands and other waters of the U.S. for the proposed project was conducted concurrently with other biological survey efforts. The preliminary wetland delineation includes all areas within the BSA. The preliminary wetland delineation will be verified by the USACE.

2.5.5 Stanislaus National Forest

On October 7, 2015, HELIX contacted Melinda Benton, Stanislaus National Forest Calaveras District Wildlife Biologist, to determine if the Forest Service had any additional information regarding CRLF in the region. Ms. Benton indicated the only information she had was that the species was known in San Domingo Creek (approximately 8.3 miles south of the project area) downstream from (west of) the National Forest boundary. The record was about 10 years prior to the time of the contact, and there hadn't been more recent observations of the species in the area since (Melinda Benton, pers. communication, October 7, 2015).

At the suggestion of the Forest Aquatic Biologist, Steven Holdeman (email dated October 9, 2015), HELIX used VertNet to search for CRLF records in the County with no records found in the database (National Science Foundation 2017).

2.6 Limitations That May Influence Results

Much of the land within one mile of the BSA was inaccessible during the CRLF habitat assessment field survey. A total of two tributaries to Jesus Maria Creek (Mexican Gulch, and a smaller, unnamed drainage), one unnamed tributary to Salamander Creek, and three mapped wetland/pond features visible on the USGS topographic quadrangle map, NWI map, and/or aerial photos were inaccessible to biologists conducting the habitat assessment and could not be physically surveyed. These inaccessible sites were on private property. Any of the features may provide the minimum breeding habitat requirements for CRLF. In addition, there is the potential for additional unidentified aquatic habitat, including ponds (primarily in the form of small impoundments along drainages), to exist within one mile of the BSA. Because the adjacent area could not be fully surveyed, the potential for occupied breeding habitat to be present within one-mile of the BSA cannot be ruled out.

The recent Butte Fire and prolonged drought may have reduced the current quality and extent of aquatic resources and CRLF habitat in the area from historical levels. Habitat assessments performed in current conditions may not reflect the possibility of CRLF persistence in what is now low-quality habitat. Similarly, delineations of aquatic resources performed in current conditions may reflect affected habitat conditions and may also influence the results of field reviews.

Chapter 3 – Results: Environmental Setting

This section describes the region in which the proposed project is located in order to provide a context and relative intensity for the project's impacts. The region's topography, soils, vegetation, watercourses, and level of human or natural disturbance are discussed.

3.1 Description of the Existing Biological and Physical Conditions

3.1.1 Biological Study Area

The BSA is located in a mountainous, rural area of Calaveras County in the foothills on the western slope of the Sierra Nevada Range. Land use in the vicinity of the project site is undeveloped forested land and residential parcels with cleared pastures. The BSA is located in a privately owned residential property with cleared pastures north of Jesus Maria Creek used for cattle grazing of approximately 10 cattle at a time (Pat Morales, pers. comm. on November 11, 2015). The cattle have access to the creek.

Whiskey Slide Road through the BSA is a rural local road with a 10- to 11-foot-wide paved roadway and narrow shoulder. The bridge over Jesus Maria Creek is a paved, single lane, single-span steel girder structure with a concrete deck built in 1936. The structure is supported on reinforced concrete abutments founded on spread footing with reinforced concrete wingwalls. The existing bridge is approximately 42 feet long and 14.4 feet wide. From the south, the existing roadway approaches Jesus Maria Creek from the southwest and then crosses the creek via the bridge which is at a slight skew to the flow of the creek. North of the bridge, the roadway turns northwestward in an approximately 90 degree turn, and continues to the northwest. This area experiences a low average daily traffic volume of approximately 93 vehicles, consisting primarily of local residents. Refer to **Figure 2** in **Appendix A** for an aerial image of the BSA, and **Appendix F** for ground photographs of the BSA.

3.1.2 Physical Conditions

Topography

The topography in the BSA and surrounding area varies widely. The majority of the project site is characterized by gentle slopes and undulating topography with grades ranging from approximately 2 to 30 degrees. Steeper slopes occur in both the northern portion of the project site, north of Whiskey Slide Road, and south of Jesus Maria Creek, east of Whiskey Slide Road with slopes greater than 60 degrees in those areas. The creek banks in the study area are generally broad and slope gently to the creek. The south bank east of Whiskey Slide Road is slightly steeper due to a constructed driveway that follows the creek, and that gives way to steep slopes directly south of the driveway and east of Whiskey Slide Road south of the creek. Elevations in the BSA range from approximately 1,695 feet above mean sea level (amsl) to 1,775 feet amsl (516.6 – 541.02 meters amsl), with elevations increasing to the north, south, and east.

Soils

The Natural Resources Conservation Service (NRCS) Soil Survey online tool was accessed on May 22, 2013, and the NRCS soil department was contacted to determine soil types occurring in the BSA; however, no soil survey data was available for anywhere in Calaveras County. The NRCS Soil Survey online tool was accessed again on October 17, 2015 and March 1, 2017 to verify no soil survey data became available in the interim.

While no formal soil survey has been completed for Calaveras County by the NRCS, the 1996 General Plan provides nine soil groups for the County, which are classified according to their value as agricultural lands. The 1996 General Plan Soil Types map classifies the soils surrounding the project site as Group 6. Group 6 soils are typified by acid, rocky, or stony soil over slate rock. Conifers grow well in this soil, although there will be occasional pockets of oaks, shrubs, and grasses. The soils can be used for range lands and irrigated orchards. The native geology at the site consists of Calaveras Complex which is characterized by shallow alluvial soils over Metasedimentary bedrock (California Department of Conservation 2016).

Hydrology

The BSA is located within the Upper Calaveras watershed, approximately 5.7 miles upstream from the confluence of Jesus Maria Creek with the North Fork of the Calaveras River. Drainages in the Sierra Nevada provide corridors of riparian habitat that are essential to many plant and animal species occurring in those regions. These drainages are important tributaries to the hydrology of the waterways through the Central Valley and to the biological functions of deltas along the coast. The Calaveras River collects the flows of tributaries from the high mountains, and recharges New Hogan Lake located at the confluence of the north and south forks of the Calaveras River, west of San Andreas. The river continues through the San Joaquin Valley to the San Joaquin River west of Stockton.

Jesus Maria Creek generally flows from the east to the west, and is a tributary to the North Fork Calaveras River. Through the BSA, Jesus Maria Creek flows from the southeast to the northwest, under Whiskey Slide Road, where it curves southward and flows to the southwest. Stormwater from the surrounding uplands flows toward Jesus Maria Creek, primarily as sheet flow.

During the November 2015 site visit following the Butte Fire, minor soil erosion was visible on slopes in the BSA with soils that had been exposed and disturbed during the fire. The Butte Fire burned upland and riparian areas upstream from the BSA, although some portions of the riparian corridor appeared to have remained intact (review of aerial imagery Google Earth 2017). Runoff from exposed and disturbed soils in and around the BSA and areas upstream of the BSA would be expected to temporarily result in increased sedimentation and turbidity in Jesus Maria Creek through the BSA. The duration and intensity of the increased sedimentation and turbidity would be dependent on the severity of the burned areas upstream from and surrounding the BSA. The effects of sedimentation and turbidity would be greatest in areas where riparian vegetation and groundcover is lacking which would leave the area susceptible to increased overland flow, which can concentrate flow and accelerate velocity that results in increased bank erosion and impacts to stream channel stability and water quality. The effects of the fire on water quality and stream channel stability would be expected to improve over time as both upland and riparian vegetation recover.

3.1.3 Biological Conditions in the Biological Study Area

Vegetation Communities/Habitat Types

Habitat mapping and characterization was conducted in May 2013. The area was burned by the Butte Fire during the summer of 2015. The extent of the burn through the project site was observed during the November 11, 2015 site visit. While upland habitats south of the bridge and wooded upland habitats north of the bridge were substantially burned, the riparian habitat was not significantly altered. Within the burned areas, the trees, understory, and soils were burned and soils were exposed. The bridge was not burned during the fire. Subsequently, trees and shrubs adjacent to the creek east of the bridge were trimmed and cleared. Although the composition of the habitats present was altered by the fire, the overall habitat types did not change substantially. The effects of the fire on the habitat are discussed in the following sections, as appropriate.

Habitat types occurring in the BSA include mixed conifer forest (*Pinus ponderosa* – *Calocedrus decurrens* Forest Alliance), annual brome grassland, white alder riparian forest (*Alnus rhombifolia* Forest Alliance), perennial riverine (Jesus Maria Creek), and graded/paved. Habitat nomenclature generally follows *A Manual of California Vegetation, Second Edition* (Sawyer 2009), CDFW's California Wildlife Habitat Relationships classification scheme (CDFW 2015), and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

Acreages of each habitat type present in the BSA are presented in **Table 2** and depicted in **Figure 4** in **Appendix A**.

Table 2. Habitat Types and Acreage Present in the Biological Study Area

Habitat Type	Acres
<i>Upland</i>	
Mixed conifer forest (<i>Pinus ponderosa</i> - <i>Calocedrus decurrens</i> Forest Alliance)	2.37
Annual Brome Grassland (<i>Bromus</i> [<i>diandrus</i> , <i>hordeaceus</i>] – <i>Brachypodium distachyon</i>)	0.66
White alder riparian forest (<i>Alnus rhombifolia</i> Forest Alliance)	0.30
Graded/paved	0.36
<i>Aquatic</i>	
Upper perennial riverine, rock bottom (Jesus Maria Creek)	0.23
Total	3.92

Terrestrial Vegetation Communities/Habitat Types

Mixed Conifer Forest (*Pinus ponderosa*–*Calocedrus decurrens* Forest Alliance)

Mixed conifer forest occurs throughout most of the BSA and adjacent areas, and occupies approximately 2.37 acres of the BSA. It is the predominant habitat in upland areas not cleared for the roadway and the adjacent private property. The tree canopy of this community is dominated by ponderosa pine (*Pinus ponderosa*) and incense cedar (*C. decurrens*). Oaks (*Quercus* sp.) are also commonly present in the tree canopy, with several occurring in the parcels adjacent to Whiskey Slide Road north of the bridge.

Prior to the fire, the shrub layer of this habitat type was patchy and where present was dominated by western poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus armeniacus*), and snowberry (*Symphoricarpos* sp.). The herbaceous layer was very sparse where the shrub layer was present. Where the shrub layer was absent the herbaceous layer was similar in species composition to the annual brome grassland (described below).

The mixed conifer forest south of the creek, both east and west of Whiskey Slide Road was substantially burned by the Butte Fire. Trees were burned, although most of the larger trees appear to have survived, and the understory was burned extensively. The understory is expected to regenerate, and likely would be more extensive until the overstory regenerates. The County and individual property owners have been actively working to remove hazardous trees following the fire. Numerous trees in the BSA have been cut.

Annual Brome Grassland (*Bromus* [*diandrus*, *hordeaceus*] – *Brachypodium distachyon* Semi-natural Herbaceous Stands)

Areas of the BSA north of Jesus Maria Creek have been cleared of trees and shrubs for the adjacent private property, and are now grassland. Annual brome grassland is also present adjacent to the riparian corridor north of Jesus Maria Creek. It occupies 0.66 acre of the BSA. This herbaceous community in the BSA is dominated by non-native annual grasses and forbs including soft chess (*Bromus hordeaceus*), ripgut grass (*B. diandrus*), bristly dogtail grass (*Cynosurus echinatus*), vetch (*Vicia* sp.), and clover (*Trifolium* sp.). Native grasses and forbs do occur but do not dominate the community. Trees and shrubs are mostly absent from this community.

White Alder Riparian Forest (*Alnus rhombifolia* Forest Alliance)

The white alder riparian forest in the BSA and vicinity occurs as a relatively narrow band along Jesus Maria Creek. It occupies 0.30 acre of the BSA. The tree canopy is dominated by white alder (*Alnus rhombifolia*) with lesser amounts of red willow (*Salix laevigata*). Prior to the fire, the shrub layer was patchy and where present was dominated by Himalayan blackberry and virgin's bower (*Clematis* sp.). The herb layer was very sparse where the shrub layer was present. Where the shrub layer was absent the herb layer was dominated by Philadelphia fleabane (*Erigeron philadelphicus* var. *philadelphicus*), speedwell (*Veronica* sp.), dock (*Rumex* sp.), and rush (*Juncus* sp.).

Following the Butte Fire, the shrub layer south of the bridge was burned and the extent of Himalayan blackberry was reduced. Additionally, portions of the white alder riparian forest adjacent to the private property east of the bridge were partially modified. Most of the riparian trees and shrubs were cleared for property maintenance.

Graded/Paved

Graded/paved occupies 0.36 acre of the BSA. It occurs along Whiskey Slide Road where the road has been scraped and paved, and at driveways intersecting the roadway from the east. This area is largely barren of vegetation, although some non-native grasses and forbs occur along the roadway margins.

Aquatic Habitat Type/Vegetation Community

Perennial Riverine (Jesus Maria Creek)

The segment of Jesus Maria Creek in the BSA (approximately 0.23 acre) is a natural perennial waterway with unimproved banks (e.g., no bank treatments), and a cobble, boulder, and bedrock bottom with some coarse sand and gravel substrate. The creek banks generally slope gently to the creek. Areas south of Jesus Maria Creek, east of Whiskey Slide Road are steep with slopes greater than 60 degrees.

The creek has a gradient of 2 to 3 percent, is approximately 50 feet wide at bank full width, and is approximately 1 to 3 feet deep at bank full depth. The creek bottom is generally devoid of vegetation, with occasionally occurring emergent plants such as umbrella plant (*Darmera peltata*). In the project site and immediate vicinity, the creek is characterized by large in-stream pools formed in the bedrock substrate that are separated by shorter riffle and/or run areas and contains minimal emergent vegetation.

Jesus Maria Creek is lined by stands of white alder (*Alnus rhombifolia*) and Oregon ash (*Fraxinus latifolia*) trees and saplings. It features natural soil banks well vegetated with sedges (*Cyperus* sp.), ferns, and grasses, and Himalayan blackberry, which overhung some portions of the creek prior to the Butte Fire. Following the Butte Fire, the majority of the understory south of the creek was burned up to the edge of the creek. The Himalayan blackberry understory was largely lost, but would be expected to regenerate.

Depending on the yearly precipitation, Jesus Maria Creek may provide a perennial water source in the area. While the flows recede substantially during the dry season, water persists in the pools within the channel. The creek supports a variety of species that use riparian corridors and shallow, seasonally fast flowing creeks with minimal aquatic vegetation. As described in the discussion of *Habitat Connectivity* below, the creek contributes to regional aquatic connectivity and biological functions.

3.1.4 Native Oaks

No oak woodland habitat is mapped in the BSA; however, several mature oaks are present throughout the mixed conifer forest and white alder riparian forest habitats. To determine the location and status of native oaks present in relation to the impact area of the proposed project, an inventory of native oaks was conducted. The results of the inventory identified twelve individual native oaks 5 inches or more in diameter at breast height occurring within the project footprint. Of those, six have a diameter at breast height of 24 inches or greater (one valley oak has a diameter of 54 inches). Refer to the tree inventory report in **Appendix E** for a detailed list of the inventoried oaks and a map showing the locations of the oaks.

3.1.5 Wildlife

The mixed conifer forest and perennial water and riparian corridor associated with Jesus Maria Creek supports a diversity of wildlife species commonly inhabiting mid-montane habitats in the

Sierra Nevada. Wildlife typically associated with the mixed coniferous forest habitat in Calaveras County include a variety of raptors and passerines, California mule deer (*Odocoileus hemionus*), American black bear (*Ursus americanus*), and mountain lion (*Felis concolor*) (Monk & Associates 2013). Common wildlife species associated with riparian corridors in Calaveras County include raccoon (*Procyon lotor*), mule deer, and opossum (*Didelphis virginiana*), as well as a variety of insect hunting birds and bats (Monk & Associates 2013). Other common species using the project site may include wild turkey (*Meleagris gallopavo*) and common gray fox (*Urocyon cinereoargenteus*).

Western toad (*Anaxyrus boreas*) tadpoles and minnows (fam. Cyprinidae) were observed in Jesus Maria Creek. Birds observed in the vicinity include black phoebes (*Sayornis nigricans*), spotted towhee (*Pipilo maculatus*), housefinch (*Carpodacus mexicanus*), turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*), robin (*Turdus migratorius*), and lesser goldfinch (*Carduelis psaltria*). A great horned owl (*Bubo virginianus*) was heard but not visually observed. A pair of black phoebes were observed in the BSA during the biological reconnaissance survey on May 23, 2013 and several inactive nests were observed on the underside of the bridge. A juvenile Sierran chorus frog (*Pseudacris sierra*) was observed near Jesus Maria Creek during the July 28, 2016 survey.

The bridge was investigated for use by bats. It does not provide roosting opportunities, and is not suitable bat habitat.

3.1.6 Invasive Species

Invasive plant species occur in the BSA primarily along Whiskey Slide Road and the intersecting driveways, as well as in the annual brome grassland. Invasive species are typically more numerous adjacent to roads and in disturbed ruderal/disturbed areas. This is most likely due to the existing disturbance from the cleared pasture and the adjacent Whiskey Slide Road and residential driveways which provide opportunities for the transport and spread of invasive species. The disturbed soils from the Butte Fire provide opportunities for the spread of invasive species through the BSA.

A total of 22 invasive plant species occurring on the Cal-IPC California Invasive Plant Inventory (Cal-IPC 2013) were identified in the BSA. Of these species, there are two with an overall high rating, fourteen with a moderate rating, and six with a limited rating. Refer to **Appendix C** for a list of plants in the BSA and the invasive species rating.

Species with a high rating have severe ecological impacts, and are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically. Species with a moderate rating have substantial and apparent – but not severe – ecological impacts, and are conducive to moderate to high rates of dispersal, although their establishment is generally dependent upon ecological disturbance. Distribution and amplitude varies from limited to widespread. Species with a limited rating are invasive but their ecological impacts are minor on a statewide level, or information is lacking to justify a higher rating. These species have low to moderate rates of invasiveness and the distribution and amplitude is generally limited but may be locally persistent and problematic.

Species with a high rating identified within the BSA are Himalayan blackberry and yellow-star thistle (*Centaurea solstitialis*). Yellow-star thistle is also federally listed as an invasive species as defined by EO 13112 (USDA 2017). Himalayan blackberry is present in the riparian area along Jesus Maria Creek. Prior to the Butte Fire, it dominated the understory of the riparian area south of the creek and west of Whiskey Slide Road. Yellow-star thistle is present in the annual brome grassland and along Whiskey Slide Road. Both species are widely distributed in California, including the Sierra Nevada, and pose threats to biodiversity by forming dense thickets that displace native plant species and limit the growth of understory plants (Bossard, et. al. 2000). Both species can reduce access to areas, and reduce grazing quality.

Species with a moderate rating include nine grass species and several herbaceous plants, including field hedge parsley (*Torilis arvensis*), Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), summer mustard (*Hirschfeldia incana*), klamathweed (*Hypericum perforatum* ssp. *perforatum*), and sheep sorrel (*Rumex acetosella*). These species are common in annual grassland communities and disturbed areas in California. Any one of these species may aggressively occupy an area and displace native species. These species occupy the highly disturbed areas of the site and are primarily found in the annual brome grassland and along Whiskey Slide Road.

Species with a limited rating include smooth cat's ear (*Hypochaeris glabra*), redstem filaree (*Erodium cicutarium*), horehound (*Marrubium vulgare*), English plantain (*Plantago lanceolata*), curly dock (*Rumex crispus*), and woolly mullein (*Verbascum thapsus*). These species are all widespread in California and are primarily found in disturbed areas, including annual grasslands and roadsides. These species also occupy the highly disturbed areas of the site and are primarily found in the annual brome grassland and along Whiskey Slide Road.

3.1.7 Habitat Connectivity

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or areas of human disturbance or urban development. Topography and other natural factors, in combination with human-imposed barriers (e.g., urban development, impassible fences, roadways, etc.), can fragment or separate large open-space areas. The fragmentation of natural habitat creates isolated "islands" of habitat that may not provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. Movement corridors mitigate the effects of this fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange between separate populations.

The areas surrounding the BSA are largely undeveloped or minimally developed for private residences on large properties, and no major barriers to wildlife movement such as major roadways are present in the BSA or vicinity. Relatively unimpeded corridors associated with drainages such as Jesus Maria Creek provide important movement corridors, which in turn can provide for dispersal and subsequent gene flow between wildlife populations in the region. During construction of the proposed project, wildlife movement through the BSA could be temporarily affected by diversion of flows within the creek channel. Impacts to aquatic and semi-aquatic species would be reduced by minimizing the amount of water diversion in the creek to the extent practicable. Construction fencing around the work area and work along the banks of the creek would temporarily prevent terrestrial

wildlife from entering the work zone. Once construction is complete, the water diversion and construction fencing would be removed. No long-term impacts to the creek as a wildlife movement corridor are anticipated. The proposed project would not remove, degrade, or otherwise interfere substantially with the structure or function of the wildlife movement corridor associated with Jesus Maria Creek in the BSA once construction is complete.

3.2 Regional Species and Habitats of Concern

3.2.1 Habitats and Natural Communities of Special Concern

Natural communities of special concern are habitats that have been determined by natural resource agencies to be sensitive or rare. Habitats are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distribution; and/or (3) the habitat requirements of special-status plants or animals occurring on site.

Natural communities of special concern occurring in the BSA include Jesus Maria Creek and the white alder riparian forest along the creek. Jesus Maria Creek is a potential water of the U.S. and State. The white alder riparian forest (state ranking of S4) is not listed by CDFW as a natural community of special concern (state ranking of S1-S3), however, activities affecting a waterbody and its associated habitats that may substantially adversely affect existing fish or wildlife resources are regulated by CDFW through the Lake and Streambed Alteration program (Fish and Game Code Section 1602). Such activities may include substantially diverting or obstructing the natural flow of any river, stream or lake (including dewatering activities), changing the use or material from the bed, channel or bank or any river, stream or lake; or depositing debris, waste, or other materials that could pass into any river, stream, or lake. Jesus Maria Creek and the associated white alder riparian forest are subject to CDFW jurisdiction and activities affecting those habitats would require notification to CDFW. These habitats were previously described in Section 3.1.3, *Vegetation Communities/Habitat Types*.

The annual grassland, mixed conifer forest, and graded paved habitats are not considered to be natural communities of special concern and, therefore, will not be discussed further except in the context of habitat for special-status species. No CNPS communities of concern, Critical Habitat, or other natural communities of special concern occur in the BSA. No watercourses considered habitat for special-status fish species occur in the BSA or downstream of the BSA.

3.2.2 Regionally-Occurring Special-Status Species

The database search identified 25 regionally-occurring special-status species with the potential to occur in the BSA or otherwise be impacted (refer to **Table 3**). Of those species, four have the potential to occur in the BSA and are evaluated in detail in the following sections. Species determined to have no potential to occur in the BSA or be otherwise impacted by the proposed project were excluded from further evaluation. The four species evaluated in detail in Chapter 4 are: CRLF; foothill yellow-legged frog (FYLF; *Rana boylei*); western pond turtle (*Emys marmorata*); and dubious pea (*Lathyrus sulphureus* var. *argillaceus*).

Table 3. Potential for Regionally-Occurring Special-Status Species to occur in the Biological Study Area

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Fish</i>					
Delta smelt	<i>Hypomesus transpacificus</i>	FT/ST/--/-- with Critical Habitat	Found only in the Sacramento-San Joaquin Delta from the Suisun Bay upstream where it occupies the freshwater edge of the freshwater-saltwater interface. Occurs in Contra Costa, Sacramento, San Joaquin, Solano and Yolo Counties.	Absent	The project site is outside of the known range of the species and does not provide suitable habitat.
<i>Amphibians</i>					
California red-legged frog	<i>Rana draytonii</i>	FT/SSC/--/-- with Critical Habitat	Ponds and streams with deep (greater than 2 feet deep) still or slow-moving water. Elevation ranges from sea level to 4,000 feet above mean sea level.	Present No Critical Habitat within or downstream of the project site.	Jesus Maria Creek and upland habitats in the BSA provide potential dispersal habitat, if the project site is located within one mile of suitable breeding habitat. Breeding habitat is not present in the BSA.
Foothill yellow-legged frog	<i>Rana boylei</i>	--/CT/--/--	Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	Present	Jesus Maria Creek provides suitable habitat for this species.
Southern long-toed salamander	<i>Ambystoma macrodactylum sigillatum</i>	--/SSC/--/--	Mixed coniferous forest and alpine communities. Known from 6,500 feet above mean sea level and higher. They use springs, ponds, small lakes, slow moving streams, and marshlands for breeding and larval development.	Absent	The project site is well below the documented elevational range of this species.

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Reptiles</i>					
Western pond turtle	<i>Emys marmorata</i>	--/SSC/--/--	Permanent and intermittent waters, including marshes, streams, rivers, ponds and lakes with muddy or rocky bottom and that support aquatic vegetation and emergent reeds or boulders for basking. Nest sites are typically located in an open upland area with gentle slopes (<15%), and sandy or hardpan soils that face southward.	Present	Jesus Maria Creek and adjacent uplands provide suitable habitat.
<i>Birds</i>					
Northern goshawk	<i>Accipiter gentilis</i>	--/SSC/--/Board of Forestry "Sensitive Species"	Nests and forages in mature and old-growth forest stands in a broad range of conifer and coniferous hardwood types, including Pacific Ponderosa, Jeffrey and lodgepole pine, mixed conifer, firs, and pinyon-juniper with relatively dense canopies. May also forage in meadow edges and open sagebrush. Nesting and fledgling period: March 1 – August 15.	Absent	The mixed conifer forest in and adjacent to the BSA lacks mature and old-growth forest stands preferred for nesting. There are three CNDDDB records of the species nesting within 15 miles of the study area, with no active nests recorded at any of the nest sites after 1996 (CDFW 2016).

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Birds (cont.)</i>					
Sharp-shinned hawk	<i>Accipiter striatus</i>	--/--/--WL	Roosts in intermediate to high-canopy forest. Nests in dense, even-aged single-layered pole and small tree stands of conifers. Nests usually placed within 90 meters (275 feet) of water, and open areas. Winters in woodlands. Forages in openings at the edges of woodlands, hedgerows, brushy pastures, and shorelines, especially where migrating birds are found. Few breeding records for the Sierra Nevada. Nesting and fledgling period: April 1 – September 1	Absent	The mixed conifer forest in and adjacent to the BSA is burned and lacks the dense stand preferred for nesting. There is only one CNDDDB record of the species nesting within 15 miles of the study area. The record is from 1998 with no more recent records (CDFW 2016).
California spotted owl	<i>Strix occidentalis occidentalis</i>	--/SSC/--/--	Lives in old-growth coniferous forests and rocky canyons. Prefers late seral-stage forests with large, old trees, multiple canopy layers, and downed woody debris. Nests in tree cavities, broken-topped trees, and platforms, such as old raptor or squirrel nests. Does not build own nest.	Absent	No suitable habitat – no old-growth coniferous forest occurs in the project site. The nearest documented nest (CAL0028) is approximately 14 miles northeast of the project site (CDFW 2018b). Due to the distance and intervening topography, the nest will not be impacted by the proposed project.
<i>Mammals</i>					
Townsend's big eared bat	<i>Corynorhinus townsendii</i>	--/--/SSC	Found throughout California in all habitats but subalpine and alpine habitats. Requires caves, mines, tunnels, buildings, or other human made structures for roosting. Prefers mesic habitats.	Absent.	No suitable habitat – no caves or other structure suitable for roosting. The bridge does not contain crevices that might be used for roosting.

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Plants</i>					
Three-bracted onion	<i>Allium tribracteatum</i>	--/--/1B.2/--	Volcanic soils (lava caps) in chaparral, lower montane coniferous forest, and upper montane coniferous forest. Elevation: 1,100 to 3,000 meters (3,600 to 9,850 feet) Blooms: April to August	Absent	No suitable habitat – no volcanic soils were identified in the project site. This species was not observed in the project site during rare plant surveys conducted on May 23, 2013 or July 28, 2016 during the bloom season of this species.
lone manzanita	<i>Arctostaphylos myrtifolia</i>	FT/--/1B.2/--	Shrub that grows in acidic, ione soil, clay or sandy soils in chaparral or cismontane woodland. Elevation: 60 to 580 meters (197 to 1,903 feet) Blooms: November to March	Absent	No suitable habitat – no suitable soils present in the project site. Not present in study area during botanical inventory conducted on May 23, 2013 or in subsequent visits. Although the botanical survey was conducted outside of the blooming period, this perennial shrub would have been identifiable during the survey if it was present at the project site.
Pleasant Valley mariposa-lily	<i>Calochortus clavatus</i> var. <i>avius</i>	--/--/1B.2/--	Usually serpentine, clay, rocky soils in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation: 75 to 1,300 meters (246 to 4,265 feet) Blooms: May to June	Absent	No suitable habitat – no serpentine clay or rocky soils observed in the project site. This species was not observed in the project site during a rare plant survey conducted on May 23, 2013 during the bloom season of this species.

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Plants (cont.)</i>					
Red Hills soaproot	<i>Chlorogalum grandiflorum</i>	--/--/1B.2/--	Serpentine, gabbroic and other soils in chaparral, cismontane woodland, lower montane coniferous forest. It is typically found growing in rocky soils in open areas in the midst of chaparral. Elevation: 245 to 1,240 meters (804 to 4,068 feet) Blooms: May to June	Absent	No suitable habitat – no suitable soils or chaparral openings are present in the project site. This species was not observed in the project site during a rare plant survey conducted on May 23, 2013 during the bloom season of this species.
Bisbee Peak rush-rose	<i>Crocانthemum suffretescens</i>	--/--/3.2/--	Perennial evergreen shrub that grows in gabbroic or igneous soils in chaparral. Often occurs in burned or disturbed areas. Elevation: 75 to 670 meters (246 to 2,198 feet) Blooms: April to August	Absent	No suitable habitat – no suitable soils or chaparral are present in the study area. This species was not observed in the study area during a rare plant survey conducted on May 23, 2013 during the bloom season of this species.
Jepson's coyote thistle	<i>Eryngium jepsonii</i>	--/--/1B.2/--	Perennial herb that occurs in vernal pools with clay soils in valley and foothill grasslands. Elevation: 3 to 300 meters (10 to 985 feet) Blooms: April to August	Absent	No suitable habitat – no vernal pools or other similar seasonal wetland habitats. This species was not observed in the study area during a rare plant survey conducted on May 23, 2013 during the bloom season of this species.

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Plants (cont.)</i>					
Tuolumne button celery	<i>Eryngium pinnatisectum</i>	--/--/1B.2/--	Vernal pools and mesic soils in cismontane woodland and lower montane coniferous forest. Elevation: 70 to 915 meters (230 to 3,002 feet) Blooms: May to August	Absent	No suitable habitat – no vernal pools or other similar seasonal wetland habitats. This species was not observed in the study area during a rare plant survey conducted on May 23, 2013 during the bloom season of this species.
Stanislaus monkeyflower	<i>Erythranthe marmorata</i>	--/--/1B.1/--	Cismontane woodland, lower montane coniferous forest. Elevation: 100 to 900 meters (328 to 2,952 feet) Blooms: March to May	Absent	Although the project site contains coniferous forest, it is outside of the documented range of this species, which is presumed extirpated (CNPS 2018); there are no documented occurrences in the CNDDDB within 5 miles of the project site. In addition, this species was not observed in the study area during a rare plant survey conducted on May 23, 2013 during the bloom season of this species.

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Plants (cont.)</i>					
Parry's horkelia	<i>Horkelia parryi</i>	--/--/1B.2/--	lone formation and other soils in chaparral and cismontane woodland. Elevation: 80 to 1,070 meters (262 to 3,510 feet) Blooms: April to September	Absent	No suitable habitat – no lone or similar soils in the project site. This species was not observed in the project site during rare plant surveys conducted on May 23, 2013 or July 28, 2016 during the bloom season of this species.
Dubious pea	<i>Lathyrus sulphureus</i> var. <i>argillaceus</i>	--/--/3/--	Cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest. Elevation: 150 to 930 meters (492 to 3,051 feet) Blooms: April to May	Present	Suitable habitat is present in the mixed coniferous forest in the project site; however, this species was not observed in the project site during a botanical inventory on May 23, 2013.
Stebbins' lomatium	<i>Lomatium stebbinsii</i>	--/--/1B.1/--	Gravelly, volcanic, or clay soils in chaparral or lower montane coniferous forest. Elevation: 1,245 to 2,035 meters (4,085 to 6,677 feet) Blooms: March to May	Absent	No suitable habitat – outside of the elevational range for the species and no gravelly, volcanic clay soils in the project site. This species was not observed in the project site during a rare plant survey conducted on May 23, 2013 during the bloom season of this species.

Common Name	Scientific Name	Federal/ State/CNPS Status/ other	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Plants (cont.)</i>					
Yellow-lip pansy monkeyflower	<i>Mimulus pulchellus</i> (syn: <i>Diplacus pulchellus</i>)	--/--/1B.2/--	Vernally mesic, often disturbed areas, clay, volcanic, or granitic soils in lower montane coniferous forest and meadows and seeps. Elevation: 600 to 2,000 meters (1,969 to 6,562 feet) Blooms: April to July	Absent	No suitable habitat – no volcanic or granitic soils in the study area. This species was not observed in the project site during a botanical inventory conducted on May 23, 2013 and again on July 28, 2016.
Patterson's navarretia	<i>Navarretia paradoxiclara</i>	--/--/1B.3/--	Vernally mesic, often drainages, serpentinite soils around meadows and seeps. Elevation: 150 to 430 meters (492 to 1,411 feet) Blooms: May to July	Absent	No suitable habitat – no vernally mesic habitat or serpentinite soils in the study area. This species was not observed in the study area during a botanical inventory conducted on May 23, 2013 and again on July 28, 2016.
Prairie wedge grass	<i>Sphenopholis obtusata</i>	--/--/2B.2/--	Mesic soils, associated with meadows and seeps in cismontane woodland. Elevation: 300 to 2,000 meters (984 to 6,562 feet) Blooms: April to July	Absent	No suitable habitat – no meadows and seeps in the study area. The nearest occurrence is approximately 10 miles from the study area from 1893. This species has not been documented within 10 miles of the study area in the past 15 years.

Sources: Beck and Winter 2000; CDFW 2018a, b; CNPS 2018; USFWS 2018

Notes:

Absent - No habitat present in the project site; therefore, the species will not occur and no additional surveys or evaluation are required. Present – Suitable habitat is, or may be present in the project site; therefore, the species may be present. Species present – The species was observed or is known to inhabit the project site.

Listing Status: FC = Federal Candidate for listing; FT = Federal Threatened; ST = State Threatened; CT = State Candidate for listing as Threatened; SSC = Species of Special Concern; 1B = Rare, threatened, or endangered in California and elsewhere; 1B.1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); 1B.2 = Fairly endangered in California (20-80% occurrences threatened); 1B.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known); 2B = Rare, threatened, or endangered in California but more common elsewhere; 2B.2 = 2.2 = Fairly endangered in California (20-80% occurrences threatened); 3 = Plants about which more information is needed; -- = no listing status.

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3.2.3 Raptors and Other Migratory Birds

Many bird species are migratory and fall under the jurisdiction of the MBTA. These species include various migratory birds and raptor species. Some raptor species and other migratory birds, such as great horned owl (*Bubo virginianus*) and black phoebes, are not considered special-status species because they are not rare or protected under FESA or CESA; however, the MBTA and California Fish and Game Code Sections 3503 and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs.

The trees in and adjacent to the BSA provide potential roosting or nesting habitat for various birds, including raptors. As previously mentioned, a pair of black phoebes was observed foraging over the creek, and several phoebe nests were observed under the bridge. A great horned owl was heard during the May 2013 biological reconnaissance survey. All other birds observed in the BSA are also protected while nesting. These birds include: spotted towhee, housefinch, turkey vulture, mourning dove, robin, and lesser goldfinch.

Chapter 4 – Results: Biological Resources, Discussion of Impacts and Mitigation

This section discusses the results of the special-status species evaluation presented in Chapter 3 and evaluates potential project impacts to special-status species and their habitats with the potential to occur in the BSA or be affected by the proposed project.

4.1 Habitats and Natural Communities of Special Concern

As mentioned in Section 3.2.1, *Habitats and Natural Communities of Special Concern*, natural communities of special concern are habitats that have been determined by natural resource agencies to be sensitive or rare. The aquatic habitat of Jesus Maria Creek in the BSA is a potential water of the U.S. and State and is regulated by the USACE and RWQCB. The creek and associated white alder riparian forest habitat in the BSA are regulated by the CDFW under the Fish and Game Code Section 1602 LSAA program. These habitats are discussed in the following sections. The mixed conifer forest, annual grassland, and graded/paved habitats are not considered to be natural communities of special concern; however, these habitats are included in the table below because USFWS considers the project site to provide potential aquatic and upland dispersal habitat for CRLF. Discussion of impacts to these habitats is incorporated into the discussion of impacts to CRLF in Chapter 4.2.1, *Discussion of California Red-Legged Frog*.

Table 4 presents the temporary and permanent impacts to all habitats and natural communities in the BSA. The areas of impact are depicted on **Figure 5** in **Appendix A**.

Table 4. Temporary and Permanent Impacts to Vegetation Communities/Biological Habitats

Habitat Type	Total (Acres)	Impact		Avoided
		Permanent	Temporary	
Upland				
Mixed conifer forest (<i>Pinus ponderosa-Calocedrus decurrens</i> Forest Alliance)	2.37	0.49	0.63	1.25
Annual brome grassland (<i>Bromus [diandrus, hordaceus]</i> – <i>Brachypodium distachyon</i> Semi-natural Herbaceous Stands)	0.66	0.08	0.22	0.36
White alder riparian forest (<i>Alnus rhombifolia</i> Forest Alliance) ¹	0.30	0.14	0.11	0.05
Graded/paved ²	0.36	--	--	--
Subtotal	3.69	0.71	0.96	1.66
Aquatic				
Jesus Maria Creek ¹	0.23	0.07	0.13	0.03
Subtotal	0.23	0.07	0.13	0.03
Total	3.92	0.78	1.09	1.69

¹A natural community regulated by California Department of Fish and Wildlife.

²The graded/paved habitat through the project site is areas graded for the existing roadway and the existing bridge. These are existing impact areas so no new impacts were calculated.

4.1.1 Discussion of Native Oaks

While numerous oaks are present in the project site, no habitat meeting the criteria of “oak woodland” as defined in Section 1361 of the Fish and Game Code is present in the BSA. A total of 12 oaks meet the definition of “oak” as defined in Section 21083.4 of the Public Resources Code and may be impacted by the proposed project. While native oaks may be impacted by the proposed project, no oak woodland will be impacted. No mitigation is necessary.

4.1.2 Discussion of Aquatic Habitats/Waters of the U.S. and State

HELIX biologists conducted delineation of all waters of the U.S. and State occurring within the BSA (HELIX 2017). All areas within the BSA were assessed to the degree necessary to determine the presence or absence of jurisdictional wetlands and other waters of the U.S. and State.

Survey Results

The only aquatic feature in the BSA (Jesus Maria Creek) is considered subject to USACE jurisdiction under Section 404 of the CWA. A total of 0.23 acre of Jesus Maria Creek occurs in the BSA. The results of the jurisdictional delineation are preliminary until verified by the USACE. All waters of the U.S. in the BSA are also subject to RWQCB jurisdiction under Section 401 of the CWA. A table summarizing waters of the U.S. and waters of the state within the BSA is below (**Table 5**).

Table 5. Waters of the U.S. and State in the Biological Study Area

Aquatic Resource Name	Cowardin Classification	Area (acres/square feet)
Jesus Maria Creek	Upper perennial riverine, cobble-gravel, rock bottom	0.23/ 9,957
Total waters of the U.S. and State		0.23/ 9,957

Jesus Maria Creek has a bed and banks, with a clearly defined channel. The creek bottom is generally devoid of vegetation, with occasionally occurring emergent vegetation such as umbrella plant (*Darmera peltata*). The water depth varies depending on precipitation from higher elevations, but the depth of the creek at the OHWM ranges from approximately 1 to 3 feet. Characteristics indicating presence of an OHWM include a change in vegetation and soils, a clear natural line impressed on the bank, shelving, and the presence of litter and debris.

Project Impacts

Impacts to waters of the U.S. and State would occur from construction of the project. Impacts would occur from the placement of fill into Jesus Maria Creek and from temporarily disturbed and exposed soils associated with construction that could result in erosion, sedimentation, turbidity, and decreased water quality, as well as hazardous materials and chemical spills during construction activities that could enter the waterway and degrade water quality. Refer to **Table 6** for permanent and temporary impacts to jurisdictional waters of the U.S. and State.

Table 6. Impacts to Potential Waters of the U.S. and State

Aquatic Resource Name	Total (acre)	Impact (acre)		Avoided (acre)
		Permanent	Temporary	
Jesus Maria Creek	0.23	0.07	0.13	0.03
Total	0.23	0.07	0.13	0.03

Permanent Fill

Construction of the new bridge will result in permanent impacts to waters of the U.S. and State from the placement of permanent slope protection (rip-rap or other armoring). A total of 0.07 acre of waters of the U.S. and State in Jesus Maria Creek will be permanently impacted from the placement of fill associated with the new bridge features.

The project involves placing fill along the creek banks to construct the embankments for the new bridge abutments and approaches. The embankments would be graded and treated with rock slope protection. A portion of the embankments would encroach on the creek, resulting in the permanent impacts to the creek. The abutments would be constructed above the active channel, thereby avoiding the placement of structures in the creek. Following construction, aquatic habitat similar to the existing habitat would reestablish once the flow is returned to the channel.

Temporary Construction-Related Impacts

A total of 0.13 acre of jurisdictional waters of the U.S. and State are located within the disturbance footprint and could be temporarily impacted during construction activities. Activities in the creek may include access to construct the new embankments and bridge, removal of the existing bridge, temporary installation of falsework associated with construction of the new bridge. Approximately 150 feet of the creek channel through the project site would be dewatered during construction activities. Depending on the seasonal water surface levels, water diversion may not be necessary during low flow or drought conditions. If necessary, the work zone would be dewatered by installing a combination of physical barriers, including temporary (k-rail) barriers, gravel sacks, bladders, or poly-plastic sheathing to achieve a water tight barrier, and by directing flows through the work area in a pipe. The creek bottom currently consists of cobble, boulder, and bedrock with some coarse sand and gravel substrate and is generally devoid of vegetation. The temporary dewatering of the segment of the creek through the work zone, and the temporary installation of falsework, and construction access would result in minimal effects on plant life in the creek. Following construction, the falsework, water barriers, and pipe would be removed, and the creek would be allowed to return to a natural state within the re-contoured banks of the channel segment.

Erosion, Sedimentation, and Turbidity

Activities associated with access, staging, storage, and disposal areas, as well as construction related activities may result in increased sedimentation and turbidity in Jesus Maria Creek above those levels generally found under existing conditions. Sedimentation and turbidity could occur during construction of the new bridge and demolition of the existing bridge. Ground vibration may occur during construction of the footings and abutments for the new bridge (e.g., vibrating, jacking,

or drilling the footings into place), and demolition of the existing bridge abutments. The ground vibration may result in sediment suspension in the adjacent areas of the creek.

Clearing and grubbing, and the use of heavy equipment can result in ground disturbance (thereby exposing raw soils) and soil compaction. As soils become compacted, soil porosity and infiltration is reduced, which results in increased surface runoff, erosion, and sedimentation. Heavy equipment could damage the creek banks and bottom, resulting in an increased sediment load to the creek. Roads can concentrate and channelize surface and subsurface flow which can result in increased sediment delivery to streams. The potential for soil erosion from roads is often greatest during construction activities when soils are exposed. Erosion can also occur during the first year or two after construction, before the cut banks have revegetated and stabilized. In-water work has the potential to result in increased sedimentation and turbidity as disturbance to the creek bed would release sediments to the creek. The duration and extent of the effects would correspond with the duration and volume of the sediment discharge. While the creek through the BSA currently experiences an increase in sedimentation and turbidity from the fire, an increase in turbidity and sedimentation from construction of the proposed project could increase the turbidity and sediment loading in the creek and extend the duration of the reduced water quality.

The proposed project would involve ground disturbing activities as the new roadway alignment is cleared and graded, fill is placed to construct the embankments to support the new bridge, and the new bridge footings and abutments are constructed. Further, removal of the old bridge abutments would result in ground disturbance as soils previously held in place by the bridge abutments would be exposed. Construction and demolition activities would involve the use of heavy equipment, which would result in additional ground disturbance and soil compaction. Best Management Practices (BMPs) would be implemented during and following construction to minimize sediment loading. The heavy equipment would be required to stay in designated areas to minimize the effects to the creek and to avoid damage to the creek banks and bed outside of the work zone.

Hazardous Material and Chemical Spills, Water Quality

Hazardous materials and chemicals in the form of gasoline, engine oil, lubricants, or other fluids used during construction activities could enter Jesus Maria Creek as a result of seepage or accidental spills, which could affect water quality in the immediate vicinity and downstream of the construction area. The contractor would be responsible for implementing BMPs during construction; therefore, the potential for a hazardous material or chemical spill to occur is unlikely.

Construction over and near water results in increased opportunities for materials (including construction materials and litter generated by construction personnel) to spill into the waterway, which could affect water quality. If water is present in the creek during construction activities in and over the creek, the segment of the creek through the construction zone would be temporarily dewatered and a pipe installed to direct flows through the work zone. To reduce potential impacts to water quality from removal of the existing bridge, the contractor would be responsible for implementing BMPs to avoid materials and debris from the existing bridge from entering the creek once flows are restored. As described in the project description, the existing bridge structure would be lifted out with a crane, and an excavator would be used to break up and remove the abutments. Avoidance and minimization measures regarding debris containment methods and litter removal

would be implemented to prevent material or debris from entering the creek or other sensitive habitats.

The concrete form of the new bridge would be constructed over the dewatered work zone in the creek and the concrete would be poured in the form over the dewatered work zone. Concrete forms are considered water tight to allow placement of wet concrete. No spills associated with working over the creek are expected. As previously described, the contractor would be responsible for implementing BMPs to prevent spills.

Avoidance and Minimization Efforts

The following avoidance and minimization efforts shall be implemented to reduce impacts to Jesus Maria Creek:

- Standard construction BMPs shall be implemented to minimize potential effects to water quality. An Erosion Control/Revegetation Plan shall be prepared with specific measures to avoid discharge into aquatic features.
- Activities conducted in or near Jesus Maria Creek will be limited to within the dry season, approximately May 15 to October 15, depending on the precipitation year. During this period creek levels are lower to dry. The dry season is defined generally as that time between April 15 and the first qualifying rain event on or after October 15 (defined as precipitation of more than one half of an inch for 24 hours). The May 15 timing coincides with seasonal restrictions required for special-status species. Any extension of the work window outside of the May 15 to October 15 timeframe due to abnormally dry conditions would require coordination with the appropriate agency(ies), which may include CDFW, USFWS, USACE and/or the RWQCB.
- Worker education and awareness training regarding sensitive habitats (e.g., aquatic and riparian habitats) and special-status species will be conducted for all construction personnel. The contractor will ensure that all new personnel will receive the mandatory training before starting work.
- No equipment will be operated in the wetted portion of Jesus Maria Creek. If work in the wetted portion of Jesus Maria Creek is unavoidable, the work area will be dewatered and the flow diverted around the work area. The flow will be diverted only once the construction of the diversion is completed.
- Staging areas will be located on existing roadways or other disturbed areas identified in the project layout (plan) sheets where they will not affect sensitive resources.
- Construction activities will be confined to the minimal area necessary to safely conduct proposed project activities to the extent possible.
- Demolition of the existing bridge will be performed in accordance with the Caltrans Standard Specifications. The construction contractor will prepare a bridge demolition plan for approval

by the County. The demolition plan will specify measures to avoid impacts to Jesus Maria Creek and debris containment methods.

- Clearing within the project site will be confined to the minimal area necessary to facilitate construction activities. To ensure that construction equipment and personnel do not affect sensitive aquatic habitat outside of the project site, orange barrier fencing will be erected to clearly define the habitat to be avoided. This will delineate the Environmentally Sensitive Area (ESA) on the project. The integrity and effectiveness of ESA fencing will be inspected on a daily basis by the resident engineer. Corrective actions and repairs shall be carried out immediately for fence breaches.
- Standard construction BMPs will be implemented throughout construction, in order to avoid and minimize adverse effects to the water quality within the project site. Appropriate erosion control measures will be used (e.g., hay bales, filter fences, vegetative buffer strips or other accepted equivalents) to reduce siltation and contaminated runoff from the project site. The integrity and effectiveness of the BMPs will be inspected on a daily basis by the resident engineer. Corrective actions and repairs shall be carried out immediately.
- Construction by-products and pollutants such as petroleum products, chemicals, or other deleterious materials should not be allowed to enter into streams or other waters. A plan for the emergency clean-up of any spills of fuel or other materials should be available when construction equipment is in use.
- Equipment shall be re-fueled, washed, and serviced at the designated construction staging area or off-site. All construction and fill materials will be stored and contained in a designated area that is located away from Jesus Maria Creek to prevent transport of materials into the aquatic habitats. In addition, a silt fence will be installed around the staging and materials storage areas to collect any discharge, and adequate materials should be available for spill clean-up and during storm events.
- No litter, debris, or sidecast shall be dumped or permitted to enter the creek. Trash and debris shall be removed from the site regularly. Following construction, all trash and construction debris shall be removed from work areas.
- Vehicles and equipment shall be driven only within designated areas.
- Construction vehicles and equipment will be maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Leaking vehicles and equipment shall be removed from the site.
- Building materials storage areas containing hazardous or potentially toxic materials such as herbicides and petroleum products will be located outside of the 100-year flood zone, have an impermeable membrane between the ground and the hazardous material, and will be bermed to prevent the discharge of pollutants to ground water and runoff water.
- All disturbed soils will undergo erosion control treatment prior to the rainy season (generally October 15 to April 30, depending on the precipitation year) and/ or immediately after

construction is terminated in compliance with the Calaveras County Grading Ordinance. Appropriate erosion control measures will be used (e.g., hay bales, filter fences, vegetative buffer strips or other accepted equivalents) to reduce siltation and contaminated runoff from project sites. Erosion control blankets will be installed on any disturbed soils on a 2:1 slope or steeper.

Compensatory Mitigation

The project proponent shall apply for any necessary permits from the USACE, CDFW, and the RWQCB. Impacts shall be mitigated in accordance with agency requirements to ensure no net loss of acreage or functions and values of waters of the U.S. and State.

Mitigation for permanent impacts to waters of the U.S. and State in Jesus Maria Creek, if required, shall be determined at the discretion of USACE and RWQCB. As described in Section 4.1.3, *Discussion of White Alder Riparian Forest (Alnus rhombifolia Forest Alliance)*, mitigation for permanent impacts to the creek, if required, and the white alder riparian forest shall be determined at the discretion of CDFW.

The area of the creek temporarily impacted from dewatering would be allowed to return to native habitat. Because the creek is minimally vegetated, temporary dewatering would be expected to have a minimal effect on the aquatic habitat. No compensatory mitigation is required for temporary impacts to Jesus Maria Creek.

Cumulative Impacts

The cumulative effect area includes all aquatic habitats in the BSA, and upstream (northeast) of the BSA, and the associated watershed. The BSA currently supports cattle grazing and residential land uses. Upstream areas support agriculture (e.g., cattle grazing) and rural residential. An increase in these types of land uses is expected to continue. Ongoing grazing activities result in water quality impacts from increased erosion and sedimentation, as well as the potential for hazardous material spills and increased nutrient loads entering waterways (primarily from agricultural activities). Increases in such activities may continue to reduce the water quality of the creek and its watershed and may result in additional roads and structures over the creek, thereby resulting in additional permanent impacts to the creek. The project would include replacing an existing bridge and would not contribute to development in the area or contribute to a cumulative loss in aquatic habitat or waters of the US/State. Currently, there are no additional known State or private projects that are planned within the BSA. Overall, due to the minimal impacts the project will have on the creek and its watershed, the project would result in a negligible contribution to cumulative impacts on the creek.

4.1.3 Discussion of White Alder Riparian Forest (*Alnus rhombifolia* Forest Alliance)

Survey Results

Approximately 0.30 acre of white alder riparian forest is present in the BSA. This riparian habitat occurs in a relatively narrow band along Jesus Maria Creek, and is relatively sparsely vegetated. As previously described, the tree canopy is dominated by white alder. Prior to the fire, the shrub layer was patchy and where present was dominated by Himalayan blackberry and virgin's bower

(*Clematis* sp.). The herb layer was very sparse where the shrub layer was present. Where the shrub layer was absent the herb layer was dominated by Philadelphia fleabane, speedwell, dock, and rush. While the understory was modified by the Butte Fire, the shrub and herb layers are expected to regenerate.

Project Impacts

The proposed project would result in permanent loss of 0.14 acre of white alder riparian forest located within the project footprint. The area within the footprint of the new bridge and approaches would be filled to construct the new embankments, and the riparian habitat would be removed, including existing riparian trees. The existing bridge would be removed, and the banks would be reconstructed using fill and contoured to tie in to the new embankments. Rock slope protection would be placed along the re-contoured banks.

Because the native soils would be replaced with fill and rock slope protection, the native/naturalized vegetation currently present would not be expected to regenerate within the area of permanent impact. However, a portion of the recontoured banks would not be treated with rock slope protection and would be seeded with native species following construction. In addition, approximately 0.11 acre of white alder riparian forest falls within the 25-foot temporary impact buffer (outside of the limits of grading) that has been established to account for indirect impacts from construction. While these areas are not within the footprint of the project, some vegetation may be trimmed or removed to facilitate construction activities. These areas are expected to regenerate following construction.

Impacts to the existing riparian habitat would be minimized to the extent practicable. Vegetation would only be cleared within the grading limits of the project and as needed to construct the project, and an Erosion Control/Revegetation Plan would be developed to restore temporarily impacted areas and areas within the limits of cut and fill that are not being treated with rock slope protection or road material to natural habitat.

Avoidance and Minimization Efforts

Temporary and permanent impacts on the white alder riparian forest within the BSA would be avoided to the maximum extent feasible.

Construction activities would be required to minimize impacts to riparian habitat to the extent practicable. The following measures would minimize potential direct and indirect effects to the riparian forest.

- Temporary staging areas will be located on existing roadways or other disturbed areas identified in the project layout (plan) sheets where they will not affect sensitive resources.
- Construction activities will be confined to the minimal area necessary to safely conduct proposed project activities to the extent possible.
- An Erosion Control/Revegetation Plan shall be prepared for restoration of temporary work areas and areas within the limits of cut and fill not being treated with rock slope protection or road material. The topography shall be blended with the surrounding area. Topsoil shall be

salvaged from the permanently impacted areas to be placed over the restored area, which shall then be revegetated with native species.

- Riparian habitat will be avoided or preserved to the maximum extent practicable. Emergent (rising out of water) and submergent (covered by water) vegetation will be retained where feasible. A qualified biologist will be present during clearing and grubbing activities within the riparian habitat.
- To ensure construction equipment and personnel do not affect avoided riparian habitat in and adjacent to the project site, the boundary of riparian habitats to be avoided will be clearly marked with brightly colored fencing and identified as an environmentally sensitive area (ESA). Riparian trees in the BSA that are not to be removed will be clearly marked in the site plans and a buffer zone will be established around the trees situated adjacent to and within the work areas. These buffer areas will be identified with ESA fencing prior to construction within the riparian habitat, and will be of sufficient size to eliminate potential disturbance from the proposed activities. The integrity and effectiveness of ESA fencing and erosion control measures will be inspected on a daily basis. Corrective actions and repairs shall be carried out immediately for fence breaches and ineffective BMPs.
- Worker education and awareness training regarding sensitive habitats (e.g., aquatic and riparian habitats) and special-status species will be conducted for all construction personnel. The contractor will ensure that all new personnel will receive the mandatory training before starting work.
- An LSAA shall be obtained for impacts to habitats regulated by CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code. Measures required by the LSAA shall be implemented as a condition of project approval, and prior to ground disturbance affecting Jesus Maria Creek and the white alder riparian forest regulated by CDFW.

Compensatory Mitigation

The project proponent shall obtain an LSAA from CDFW. Impacts shall be mitigated in accordance with the LSAA to ensure no net loss of acreage of riparian forest. Mitigation for permanent impacts to white alder riparian forest, if required, shall be determined at the discretion of CDFW.

An Erosion Control/Revegetation Plan shall be prepared for restoration of temporary work areas and the area of the existing bridge that will be removed. The topography of temporarily disturbed areas and the location of the existing bridge shall be contoured to blend with the surrounding area. Topsoil shall be salvaged from the permanently impacted areas to be placed over the areas to be restored, which shall then be revegetated with native species.

Cumulative Impacts

The cumulative effect area includes the riparian corridor for Jesus Maria Creek. The creek is in an area that largely supports agriculture (cattle grazing) and rural residential. The riparian corridor of the creek is largely intact, with minimal adjacent development and disturbance (review of aerial imagery Google Earth 2016). The proposed project would result in a relatively small project footprint, and the impacts would be offset by restoration of the location of the existing bridge (where feasible). Overall,

due to the minimal impacts the project would have on the riparian habitat, the project would result in a negligible contribution to cumulative impacts on the white alder riparian forest.

4.2 Special-Status Animal Species Occurrences

4.2.1 Discussion of California Red-Legged Frog (*Rana draytonii*)

Status

Federal status – Federal Threatened

State status – Species of Special Concern

Other – None

The CRLF was federally listed as threatened on May 23, 1996. Approximately 1,636,609 acres of critical habitat in 27 California counties was established for the species in a final revised designation effective April 16, 2010 (75 Federal Register [FR] 12816-12959). The nearest Critical Habitat unit is CAL-1, Young's Creek located in northwestern Calaveras County, north of State Highway 26 and south of Paloma Road. The Critical Habitat was occupied at the time of the April 16, 2010 ruling, and is located in the Lower Calaveras watershed, approximately 10 miles west of the project site. The project site is located within Recovery Unit 1: Sierra Nevada Foothills and Central Valley.

Life History and Habitat

The historic range of CRLF extends from Baja California, Mexico, north to the vicinity of Redding inland, and at least to Point Reyes, California coastally (Jennings and Hayes 1994). Today the species is known to occur in about 238 streams or drainages in 23 counties and is found primarily in wetlands and streams in the coastal drainages of Central California. Records of the species are known from Riverside County to Mendocino County along the Coast Range, from Calaveras County to Butte County in the Sierra Nevada, and in Baja California, Mexico. CRLF are still locally abundant within portions of the San Francisco Bay area (including Marin County) and the central coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse Ranges (USFWS 2010). In the Sierra Nevada, CRLF historically occupied portions of the lower elevations west of the crest from Shasta County south to Tulare County. Almost all known CRLF populations have been documented at elevations below 3,500 feet amsl with some historical sightings documented at elevations up to 5,200 feet amsl.

Within its range, CRLF occupies a fairly distinct habitat of both aquatic and terrestrial components that consist of aquatic breeding and non-breeding areas embedded within a matrix of habitats used for dispersal or refugia. Breeding and non-breeding aquatic habitat consists of low-gradient freshwater bodies, including ponds, marshes, sag ponds, dune ponds, stock ponds, lagoons, seeps, springs, and backwaters within streams and creeks. This species does not inhabit water bodies that exceed 70 degrees Fahrenheit if there are no cool, deep portions (USFWS 2002). Important characteristics of aquatic breeding habitat include still or slow moving fresh water (with salinities of less than 7.0 parts per thousand) deeper than 2.3 feet (0.7 meter) with dense, shrubby emergent or overhanging vegetation that provides egg deposition sites and cover for adult frogs (Jennings and

Hayes 1988; USFWS 2002) and that persists for a minimum of 20 weeks following the breeding season to allow tadpoles to mature (USFWS 2010). The breeding season typically occurs from November through April (USFWS 2002), and is likely influenced by local precipitation and ambient temperature. Females typically lay eggs between December and early April. Tadpoles typically metamorphose in 11 to 20 weeks, from July to September, but may overwinter in some sites. The largest populations of CRLF are associated with deep-water pools with dense stands of overhanging willows (*Salix* sp.) intermixed with cattails (*Typha* sp.). Adults feed primarily on aquatic and terrestrial invertebrates, but may feed on tadpoles, smaller frogs, small mammals, and fish (CWHR 2008). Juvenile frogs are active diurnally and nocturnally, and adult frogs are largely nocturnal (USFWS 2002).

CRLF are generally found in or near water, but may disperse upland during the wet season to migrate to breeding habitat, or in response to receding water during the driest time of the year.

Well-vegetated terrestrial areas within a riparian corridor may provide important sheltering habitat when temperatures are cold in the winter or when water is unavailable during dry periods. CRLF spend considerable time resting and foraging in riparian vegetation when it is present (USFWS 1997, 2002). The use of the adjacent riparian corridor during summer is most often associated with drying of creeks in mid- to late-summer (Rathbun *in litt.*, 1994 in USFWS 1996). During dry periods, CRLF remain close to water and often disperse upstream or downstream from their breeding habitat to forage or seek aestivation sites if water is not available (USFWS 2002). This habitat may include shelter under boulders, rocks, logs, industrial debris, agricultural drains, water troughs, small mammal burrows, incised stream channels, or areas with moist leaf litter (Jennings and Hayes 1994; USFWS 2002). Most CRLF do not disperse farther than the nearest suitable cold-shelter or aestivation habitat. CRLF have been found up to 200 feet from water in adjacent dense riparian vegetation (USFWS 2010).

During periods of wet weather, individuals may disperse through uplands to migrate between aquatic breeding sites, and have been observed making straight-line point to point migrations rather than using stream corridors (USFWS 2002). Movements of up to two miles have been reported (Fellers 2005), but one mile represents a more typical dispersal distance for breeding migration. Most overland movements occur at night (USFWS 2002).

The primary constituent elements for CRLF are aquatic and upland areas where suitable breeding and non-breeding habitat is interspersed throughout the landscape and is interconnected by unfragmented dispersal habitat. Specifically, to be considered to have the primary constituent elements, an area must include two (or more) suitable breeding locations, a permanent water source, associated uplands surrounding these water bodies up to 300 feet from the water's edge, all within 1.25 miles of one another and connected by barrier-free dispersal habitat that is at least 300 feet in width (USFWS 2002).

Survey Results

The BSA is within the historic range of the CRLF according to California's Wildlife Volume 1, Amphibians and Reptiles (Zeiner et al. 1988) and according to the Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*) (USFWS 2002). As previously mentioned, the BSA is

within Recovery Unit 1: Sierra Nevada Foothills and Central Valley. The nearest known record of CRLF in the CNDDDB is from 2003 where this species was documented approximately 11 miles west of the site along Young's Creek in an area with channel substrate consisting of coarse sediment, sand, and silt, in an area of grazed oak savannah and riparian forest (Occurrence No. 671; CDFW 2018).

To determine the potential for CRLF to occur in the BSA and vicinity, a site assessment in accordance with the USFWS *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005) was conducted on November 16, 2014. The details of the assessment are included in the site assessment report prepared for the project and are summarized here (**Appendix D**; HELIX 2016).

The BSA and all accessible aquatic habitats (e.g., waterways and ponds) visible on aerial photography and topographic maps within one mile of the BSA were analyzed for habitat suitability. Within the BSA, Jesus Maria Creek is a perennial stretch with a cobble, boulder, and bedrock bottom featuring large in-stream pools separated by shorter riffle and/or run areas. Minimal emergent vegetation occurs in the creek, and at the time of the habitat assessment, the banks were comprised of soil and cobble and vegetated with sedges (*Cyperus* sp.), ferns, grasses, and Himalayan blackberry. The southern bank was shallowly undercut with exposed roots. Following the Butte Fire, much of the overhanging vegetation along the southern creek bank was burned, but would be expected to regenerate. Jesus Maria Creek in the BSA was determined to not provide suitable breeding habitat because it exhibits minimal emergent and overhanging vegetation, and the pools are instream and are not of suitable depth to meet the breeding habitat requirements for CRLF. The instream pools are subject to seasonally high water levels with swift flows which recede substantially during the drier months, and which would further preclude the site from containing potential breeding habitat. Much of the land within one mile of the BSA was inaccessible and could not be surveyed; however, of the areas that were surveyed, no suitable breeding habitat for CRLF was detected within one mile of the BSA.

While the field surveys did not detect suitable breeding habitat in the BSA or within a one-mile radius, and there are no records of the species occurring in the BSA or immediate vicinity, there is a possibility that the BSA is located within one mile of inaccessible or unidentified suitable breeding habitat, in which case the BSA could provide suitable dispersal habitat.

There are no documented occurrences of CRLF in the project region in Barry and Fellers (2013); however, additional relatively recent discoveries of CRLF in the Sierra Nevada documented by Barry and Fellers (2013) indicate that small unidentified populations of this species likely occur sporadically throughout the Sierra Nevada from elevations of approximately 500 to 3,600 feet. Because this species is secretive, scarce, and cryptic, and populations are often very small, discovery of Sierra Nevada CRLF populations is largely a matter of chance (Barry and Fellers 2013) and it is likely that undiscovered populations occur on private and public land throughout suitable habitat in the Sierra Nevada. Barry and Fellers noted only one documented occurrence of the species in Calaveras County, which was along Young's Creek and corresponds with the CNDDDB report described above.

HELIX contacted Melinda Benton, Stanislaus National Forest Calaveras District Wildlife Biologist, to determine if the Forest Service had any additional information regarding CRLF in the region. Ms. Benton indicated the only information she had was that the species was known in San Domingo Creek downstream from (west of) the National Forest boundary. The record was about 10 years ago, and there haven't been more recent observations of the species in the area since. She had no record of them occurring in the Calaveras District. At its nearest point west of the National Forest boundary, San Domingo Creek is approximately 8.3 miles southeast of the BSA and is in the same watershed as the BSA (Upper Calaveras River watershed). At the suggestion of the Forest Aquatic Biologist, Steven Holdeman (email dated October 9, 2015), HELIX used VertNet to search for CRLF records in the County. No pertinent records were found in the database (National Science Foundation 2017).

Potential to Occur

CRLF are not expected to occur in the BSA. No CRLF were observed in the BSA during the habitat assessment or any of the other biological surveys and the nearest known occurrence of the species is over eight miles from the BSA (Melinda Benton, pers. communication, October 7, 2015). Based on the results of the habitat assessment, the BSA does not provide potential breeding habitat for CRLF, and no suitable breeding habitat was identified at any of the accessible sites within one mile of the BSA; however, the BSA may provide aquatic and upland dispersal habitat for CRLF if undetected breeding populations are present in the vicinity. The Butte Fire of 2015 has affected the water quality of the area and resulted in a loss of the minimal vegetation that was overhanging the creek and the vegetation cover in the terrestrial habitat which would have provided cover opportunities for CRLF using the BSA. It is unknown whether CRLF would use less than optimal habitat for dispersal following extensive habitat loss/modification (such as from the Butte Fire); however, the effects of the fire are temporary, and the species would be expected to use the site for dispersal once the quality of the habitat is restored. Similarly, the extended drought may have affected the species use of the site, but the potential effects are unknown.

While the potential for undetected breeding populations to occur within one-mile of the project site cannot be ruled out; due to the lack of records in the area and the lack of suitable aquatic breeding habitat in the project site, the likelihood of unknown breeding populations of CRLF is low and the likelihood of CRLF using the BSA for dispersal between suitable aquatic (breeding or non-breeding) sites is low.

In the unlikely event that there are unknown breeding populations of CRLF in the area, individual CRLF could use the BSA for dispersal; however, the BSA lacks suitable upland refugia and aquatic habitat that would provide opportunities for CRLF to occupy the site. Because of the lack of suitable habitat in or near the BSA, CRLF have no potential to reside in Jesus Maria Creek or the adjacent uplands in the BSA, and minimal potential to occur as transient, dispersing individuals.

CRLF would not use the upland habitats in the BSA for refugia because CRLF typically only hibernate and aestivate near suitable breeding and non-breeding aquatic habitats, which the BSA lacks. As previously mentioned, there is no aquatic breeding habitat in Jesus Maria Creek in or near the BSA, and the creek in the BSA does not provide suitable non-breeding aquatic habitat due to sparse vegetative cover, relatively swift flows of the creek, and lack of slow-moving backwater areas.

In the unlikely event individual CRLF use the BSA for dispersal, they may disperse through the uplands during the wet season, but overland dispersal by CRLF is typically associated with movements between occupied, suitable aquatic (breeding or non-breeding) habitats. There are no suitable aquatic breeding or non-breeding habitats in or near the BSA. It is highly unlikely multiple occupied and previously unidentified suitable habitats are present in the dispersal range of the BSA that would result in dispersing individuals moving through the uplands of the BSA during the wet season. Further, construction activities are limited to the dry season (May 15 to October 15, depending on the precipitation year), when CRLF are not dispersing overland through uplands.

In the unlikely event transient, individual CRLF disperse through the BSA during construction, individuals would only be present in Jesus Maria Creek when the frogs are dispersing to and from suitable breeding habitat outside of the BSA and/or seeking permanent water sources, and would remain close to the aquatic habitat in the creek. Individuals moving through the area may forage along the creek banks, but the quality of forage habitat is low due to the lack of riparian vegetative cover in and along the creek banks. In the unlikely event the creek is used for dispersal, it is unlikely that CRLF would reside in Jesus Maria Creek through the BSA for a significant period of time due to the marginal aquatic habitat value and lack of suitable upland habitat.

As previously mentioned in the discussion of the CRLF habitat assessment in Section 2.2.2, *Biological Surveys and Mapping Methods*, the project site/BSA presented in the site assessment is slightly smaller than the current BSA (3.91 acres in the site assessment versus the current 3.92-acre BSA). The northwest portion of the site was expanded in November 2015 by Caltrans environmental staff for reasons unrelated to biological resources. The CRLF site assessment was not revised because the study area included the expansion area. No discrepancies as a result of the site boundary revisions or changes to the habitat were observed during subsequent visits to the BSA in November 2015 and July 2016 that would affect the finding of the habitat assessment conducted in November 2014.

Project Impacts

Adverse Contact

CRLF are not expected to occur in the BSA or be impacted by the proposed project. In the unlikely event that CRLF were to disperse through the BSA during construction, there is a potential for individuals to be harassed, injured, or killed if they come in direct contact with workers, equipment operated in the creek or materials being placed in the creek (such as for construction of the embankments), or other construction materials. As previously mentioned, CRLF undertake the greatest overland movements — for distances furthest from aquatic habitat — during the wet season, and during dry periods, CRLF are rarely encountered far from water. Consistent with BMPs, project activities would be limited to the dry season (approximately May 15 - October 15, depending on the precipitation year); therefore, if present in the BSA during construction, CRLF would be expected to remain in Jesus Maria Creek and would not be affected by construction activities in the upland areas. As such, construction activities with the potential to impact dispersing CRLF include those immediately adjacent to and within the creek, including clearing and grubbing along the creek banks, grading the creek banks, placement of fill within the creek banks and creek for construction of the new bridge approaches, placement of rock slope protection along the new creek banks,

diversion and dewatering activities, constructing falsework and permanent structures over the creek. Removing the existing bridge and abutments and restoring the location of the existing bridge would also require access to the creek and may affect the frog in the unlikely event they are dispersing through the BSA during the dry season. CRLF dispersing through the BSA during the wet season would avoid potential direct adverse contact with workers and equipment.

The potential for direct contact is extremely low, even in the unlikely event CRLF are present in Jesus Maria Creek in the BSA during construction, because all work within the creek would occur within the dewatered work zone. Should CRLF disperse along the creek they would remain in the wetted portion of the creek and would avoid direct contact with workers, equipment, or placed materials. Construction activities would be limited to daylight hours which would further minimize the potential for direct interaction with dispersing CRLF. In addition, avoidance and minimization measures would be in place during construction to avoid harming any CRLF that may occur in the BSA.

Deep holes, trenches, and placement of erosion control and water quality BMPs have the potential to trap or entangle CRLF. If entrapped, CRLF may be harmed or killed from starvation, exposure, or predation. Avoidance and minimization measures include prohibiting the use of monofilament netting, and covering holes to avoid trapping CRLF dispersing through the area.

Construction over and near water results in increased opportunities for materials (including hazards and hazardous materials, construction materials, and litter generated by construction personnel) to enter Jesus Maria Creek or other aquatic habitats. Accidental spills of hazardous materials and chemicals in the form of gasoline, engine oil, lubricants, or other fluids used during construction could affect aquatic habitat in Jesus Maria Creek. Hazardous materials that enter Jesus Maria Creek due to seepage or accidental spills, could also affect water quality in the immediate vicinity and downstream of the construction area. The contractor would be responsible for implementing BMPs during construction; therefore, the potential for a hazardous material or chemical spill to occur is unlikely.

Removal of the existing bridge may result in materials entering the creek. Avoidance and minimization measures regarding debris containment methods would be implemented to prevent material or debris from entering the creek or other sensitive habitats.

The project site is relatively small, and work in the creek would be confined to the minimal area necessary to construct the project. The likelihood of CRLF being present in the work area during work activities is extremely low. Should individuals disperse through the BSA in Jesus Maria Creek, they would remain in the wetted portion of the creek and would not be expected to remain the BSA for an extended period of time. The individuals that may occur would be dispersing juveniles or adults, who are highly mobile and would be able capable of avoiding the area. Avoidance and minimization measures would be implemented to as a precautionary measure to avoid any potential adverse effects on CRLF resulting from the proposed project.

Potential Dispersal Habitat Alterations

The entire BSA (3.92 acres) provides potential dispersal habitat for CRLF — Jesus Maria Creek in the BSA provides potential aquatic dispersal habitat for the species (0.23 acre) and the adjacent

riparian and upland habitats provide terrestrial habitat (3.69 acres) that may be used for dispersal during the wet season. As described in Section 4.1, *Habitats and Natural Communities of Concern*, the proposed project would result in permanent impacts to 0.78 acre and temporary impacts to 1.09 acre of potential CRLF dispersal habitat.

Because the proposed project is replacing an existing structure with a similar structure, the proposed project would not alter or degrade the BSA in such a way to preclude CRLF from using the area. The realigned roadway, bridge, and revised creek banks would not introduce a barrier to dispersing CRLF moving through the BSA to or from breeding habitat. While fill would be placed in the creek to achieve bank stability, the new bridge would span the entire creek and the majority of its banks, thereby avoiding direct, permanent impacts to the creek from the placement of structures. In addition, the existing bridge and rock slope protection would be removed. Portions of the existing disturbed area would be treated with rock slope protection for the new bridge, and portions would be recontoured, graded to a stable slope and seeded with native species consistent with the Erosion Control/Revegetation Plan which would partially offset the permanent impacts of the new bridge in the creek. All temporarily impacted areas would be seeded and allowed to return to a natural habitat following construction. Because the project would not result in a permanent effect on the use of the area for dispersal by CRLF and may result in beneficial effects, the permanent loss of 0.07 acre of Jesus Maria Creek, 0.49 acre of mixed conifer forest, 0.08 acre of anal brome grassland, and 0.14 acre of white alder riparian forest is negligible and no compensatory mitigation is necessary.

Because the BSA provides limited habitat value that would only be used for dispersal, construction activities resulting in a temporary loss of vegetation, increase in erosion, sedimentation, and turbidity or other impacts to water quality would not result in adverse effects to CRLF. With implementation of avoidance and minimization measures, potential impacts to water quality would be reduced. The removal of trees and other vegetation that shade the creek would not affect CRLF use of the area for dispersal. Following construction of the project, temporarily impacted areas would be reseeded according to the Erosion Control/Revegetation Plan for the project and the vegetative cover allowed to regenerate.

Avoidance and Minimization Efforts

Construction activities will be required to follow standard engineering practices that reduce impacts to water quality in Jesus Maria Creek. These practices include reduction of sediment loading and sediment disturbance as well as other standard BMPs for maintaining water quality in the project area. With BMPs incorporated into construction activities, no impacts to water quality and habitats in Jesus Maria Creek are anticipated during or post-construction. Refer to the avoidance and minimization efforts for aquatic resources (Section 4.1.2).

The following avoidance and minimization efforts would be implemented to prevent impacts to any CRLF in the unlikely instance that this species is present in the project site.

- Activities conducted within the banks of Jesus Maria Creek will be limited to a period outside of the active season for CRLF (approximately May 15 to October 15, depending on the precipitation year). This construction window is during the dry season when creek levels are lower to dry, providing limited aquatic and upland dispersal habitat for CRLF. The dry season

is defined generally as that time between April 15th and the first qualifying rain event on or after October 15th defined as precipitation of more than one half of an inch for 24 hours. Any extension of the work window outside of the May 15 to October 15 timeframe due to abnormally dry conditions would require coordination with the USFWS.

- Prior to commencing site disturbance, including vegetation and/or ground disturbance, a USFWS-approved biologist(s) will be identified to monitor implementation of biological mitigation measures. The USFWS-approved biologist will be present for all initial ground disturbing activities.
- Construction activities within the banks of the creek will be restricted to daylight hours to avoid CRLF that may be present in the project site during the time they are most active – dusk and dawn. Construction activities will cease one half hour before sunset, and will not begin prior to one half hour before sunrise.
- Clearing within the project site will be confined to the minimal area necessary to facilitate construction activities. To ensure that construction equipment and personnel do not affect sensitive habitat outside of the project site, orange barrier fencing will be erected to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to CRLF habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable. The location of the fencing will be established in consultation with the USFWS-approved biologist. This will delineate the ESA on the project. The integrity and effectiveness of ESA fencing will be inspected on a daily basis. Corrective actions and repairs shall be carried out immediately for fence breaches.
- To prevent CRLF from moving through the project site during construction, temporary exclusion fencing will be placed adjacent to the ESA fencing at least two days prior to the start of construction activities. The fence will be installed along the riparian corridor to prevent potential dispersing CRLF from entering terrestrial work areas. The fence will be made of a material that does not allow CRLF to pass through, with one-way exit holes, and the bottom will be buried to a depth of two inches so that frogs cannot crawl under the fence. To avoid entanglement of CRLF, the use of plastic monofilament netting will be prohibited.
- A USFWS-approved biologist shall survey the project site immediately prior to installation of temporary exclusion fencing to ensure that this species is not actively using the project site as a dispersal corridor. Once the temporary exclusion fencing is installed, the work area within the exclusion fence shall be surveyed again immediately prior to the onset of construction activities. The approved biologist shall be present during initial ground disturbing activities. If CRLF is found in the project site during pre-construction surveys or initial ground disturbing activities, construction activities shall be suspended until the frog has left the area on its own. The approved biologist shall notify the County project manager and USFWS within 24 hours to reinitiate consultation. Handling of CRLF without a take permit pursuant to the federal Endangered Species Act (FESA) is not allowed.

- Before any construction activities begin, a USFWS-approved biologist shall conduct a worker awareness environmental training session for all construction personnel. At a minimum, the training shall include a description of the CRLF and its habitat, the importance of the CRLF and its habitat, the avoidance and minimization measures that are being implemented to conserve the CRLF as they relate to the project, and the boundaries within which work may occur. Personnel will also be instructed on the penalties for not complying with avoidance and minimization measures. If new construction personnel are added to the project, the contractor will ensure that the new personnel received the mandatory training before starting work.
- If CRLF are found during construction, work will immediately stop, the CRLF will be allowed to move out of harm's way on its own accord, and the USFWS will be contacted within 24 hours to reinitiate consultation. Handling of CRLF without a take permit pursuant to FESA is not allowed.
- To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist or biological monitor, the fieldwork code of practice developed by the Declining Amphibian Population Task Force will be followed at all times.
- If dewatering is required, the contractor will prepare a creek dewatering plan that complies with all applicable permit conditions. Water diversion activities will be conducted under the supervision of a USFWS-approved biologist. The approved biologist will survey the area to be dewatered immediately after installation of the dewatering device and prior to the continuation of dewatering activities. If CRLF are observed, dewatering activities shall be suspended until the frog has left the area on its own. The approved biologist shall notify the County project manager and USFWS within 24 hours to reinitiate consultation. Handling or capture of CRLF without a take permit pursuant to the FESA is not allowed. The approved biologist will use a net to capture trapped fish, reptiles, amphibians and crayfish present in the area to be dewatered. Captured native organisms will be released into Jesus Maria Creek up or downstream of the construction zone.
- If dewatering the work area in the creek is necessary, and it will be dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters to prevent CRLF from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Should in-water work extend over multiple construction seasons, the water diversion shall be removed between construction years/seasons so that the creek flows normally. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the creek substrate. Alteration of the stream bed will be minimized to the maximum extent possible; any imported material will be removed from the temporarily impacted areas of the stream bed upon completion of the project.
- Dense vegetation scheduled for removal in the white alder riparian forest and along Jesus Maria Creek will be trimmed back by hand to allow the biological monitor to inspect the

ground below for CRLF. If no CRLF are observed, the brush may be removed with mechanized equipment.

- During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from the work areas.
- To prevent inadvertent entrapment of animals during construction, all excavated, steep walled holes or trenches more than one foot deep shall be covered at the close of each working day with plywood or other suitable material, or provided with one or more escape ramps constructed of earth fill or wooden planks. At the beginning of each working day and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the USFWS-approved biologist, or an on-site designee identified by the USFWS-approved biologist, will immediately place escape ramps or other appropriate structures to allow the animal to escape, and USFWS will be contacted within 24 hours for further guidance and to reinstate consultation. All holes and trenches more than one foot deep shall be filled or securely covered prior to October 15.
- The contractor shall take measures to prevent the introduction of invasive weeds at the construction site. All equipment shall be cleaned before bringing it onsite. Only certified weed-free erosion control materials shall be used for erosion control.
- All temporarily disturbed areas shall be returned to pre-project conditions upon completion of construction, including habitat contours. These areas will be properly protected from washout and erosion using appropriate erosion control devising including coir netting, hydroseeding, and revegetation.

Compensatory Mitigation

USFWS has determined that compensatory mitigation for loss of potential CRLF habitat as a result of the proposed project is not necessary (pers. comm. between Chris Nagano of USFWS and Dominic Vitali and Haiyan Zhang of Caltrans on May 18, 2016).

Permanent impacts to CRLF habitat would be minimized to the extent practicable and offset as feasible by revegetating disturbed riparian and upland areas not being treated with rock slope protection or road material.

Cumulative Effects (FESA)

Cumulative effects include the effects of future, state, tribal, local or private actions that are reasonably certain to occur in the BSA. Future federal actions that are unrelated to the proposed project are not considered in this section because they would be subject to separate consultation pursuant to Section 7 of the ESA (USFWS 1998).

Range wide habitat loss is a contributing factor to the decline of the species. Significant timber harvesting and agricultural activities are ongoing in the region. These activities are known to cause habitat loss, fragmentation, and degradation, which affects a variety of plant and animal species,

including CRLF. Additional activities in the region potentially affecting CRLF habitat include road and utility construction and maintenance, overgrazing, and water irrigation and storage projects that may not be funded, permitted, or constructed by a Federal Agency. Residential development and urbanization also contribute to the loss and degradation of CRLF habitat. Additional effects associated with such activities include contamination, poisoning, increased predation, and competition from non-native species associated with human alteration of the habitat, or introduction of non-native species.

CRLF is not expected to occur in the BSA, and the project has a relatively small footprint and would not permanently negatively affect the value of the site for use by the species. The permanent effects on potential CRLF dispersal habitat would be partially offset by removal of the existing bridge and restoration of the location of the existing bridge and roadway to native habitat, as feasible. Due to the minimal potential effects of the project on the species and its habitat, and the implementation of avoidance and minimization measures, the impacts of the proposed project would not result in a cumulatively considerable effect on CRLF.

4.2.2 Discussion of Foothill Yellow-legged Frog (*Rana boylei*)

Status

Federal status – None

State status – Candidate for Listing as Threatened

Other – None

The status of FYLF was updated from a Species of Special Concern to candidate for listing as threatened under the California Endangered Species Act on July 7, 2017 (Regulatory Notice No. 27-Z). Species listed as candidate under CESA are afforded the same protection as those listed as threatened or endangered. As such, projects that would result in take of the species would require an incidental take permit under Section 2081 of the California Fish and Game Code.

Life History

The FYLF ranges from Oregon south through the Coast Ranges to the Transverse Mountains in Los Angeles County, California, and through the western slope of the Sierra Nevada from Oregon south to Kern County, California. The majority of healthy populations in California are in coastal counties of northern California (Jennings and Hayes 1994).

In the Sierra Nevada, this species range extends from near sea level to 1,940 meters (6,370 feet). It is found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadows (CDFW 2015). FYLF typically breed near cobble bars in large rivers or in slower moving run habitat in close proximity to a pool in smaller streams (Kupferberg 1996). The timing of breeding depends on several factors, some of which are determined by the size of stream in which the breeding occurs. In California, breeding and egg laying usually occurs after the spring floods have ceased and the risk of egg masses being scoured away by high flows is reduced. This is typically from mid-March to May, but may occur as early as April in some streams (as water

temperature approaches 60 Fahrenheit). Egg clusters are attached to gravel or rocks in moving water near stream margins (CDFW 2000). The breeding season is usually about two weeks. Tadpoles require water for at least three or four months before developing into terrestrial frogs. There is often a high degree of site-fidelity in breeding across generations with decades of repeated use at the same location having been observed (Kupferberg 1996, Lind 2005).

FYLF are active all year in warmer locations, and may hibernate in colder areas. During periods of inactivity, FYLF seek cover under rocks in streams or within a few meters of water. Significant migrations or other seasonal movements from breeding areas have not been reported. Unlike other species of frogs, the FYLF is rarely encountered far from permanent water, regardless of rainy weather. This species coexists with the Cascades frog and the red-legged frog in different microhabitats (CDFW 2015).

For all life stages, two habitat elements seem to be of particular importance: deep water in pools (greater than 1 to 2 feet deep) and sediment free spaces between stream substrates. FYLF of all life stages, including tadpoles, use space under rocks as cover. Other habitat elements relevant to suitability include dense herbaceous vegetation growth on the stream banks (sedges and grasses) for providing overhead cover and food sources.

Survey Results

The CNDDDB records indicated the nearest documented occurrence of this species is along Jesus Maria Creek, approximately 1 mile downstream from the BSA (Occurrence No. 638; CDFW 2018a). One adult and six sub-adults were observed in August 2002. This species has not been observed in the BSA.

Potential to Occur

Potentially suitable habitat for FYLF occurs in the BSA in Jesus Maria Creek, which may be used for all life stages, and the white alder riparian forest which may be used by the frog for refugia. The aquatic habitat in the BSA features in-stream pools with a maximum depth of 2 to 3 feet consisting of bedrock and cobble substrate which provide opportunities for egg attachment. While the flows recede substantially during the dry season, water persists in the pools within the channel, which provides opportunity for tadpoles, juveniles, and adults to use the BSA. The species may use the immediately adjacent riparian habitat for hibernation. Due to the cryptic nature of this species, it could be present in the BSA and gone undetected during biological surveys.

Project Impacts

Adverse Contact

If present in the BSA during construction, FYLF would be expected to be limited to the creek. As previously described, the species is closely associated with water, and only uses upland habitats during periods of inactivity, such as during hibernation. Project construction would take place during the warmer months (the dry season), when FYLF would be most active and would not be expected to be present in terrestrial habitat. Therefore, construction activities with the potential to impact FYLF include those immediately adjacent to and within the creek, including clearing and grubbing along

the creek banks, grading the creek banks, placement of fill within the creek banks and creek for construction of the new bridge approaches, placement of rock slope protection along the new creek banks, diversion and dewatering activities, constructing falsework and permanent structures over the creek. Removing the existing bridge and abutments and restoring the location of the existing bridge will also require access to the creek and may impact the frog. Direct effects to FYLF using the site and habitat impacts from erosion, sedimentation, and potential spills would be similar to those described for CRLF.

Because the BSA provides potential breeding habitat for FYLF, if using the site, all life stages of the species may be impacted by construction activities. Construction timing would reduce the risk to eggs because eggs would be expected to be hatched prior to the start of the dry season. The potential for direct contact with adults is extremely low, even in the event FYLF are present in Jesus Maria Creek in the BSA during construction, because all work within the creek would occur within the dewatered work zone. FYLF would remain in the wetted portion of the creek and would avoid direct contact with workers, equipment, or placed materials; however, the risk to tadpoles and juveniles, if present would be greater due to reduced mobility. Avoidance and minimization measures would be in place during construction to avoid harming any frogs that may occur in the BSA.

Habitat Impacts

Jesus Maria Creek in the BSA (0.23 acre), and immediately adjacent white alder riparian forest (up to 0.30 acre) provide potentially suitable habitat for FYLF. As described in Section 4.1, *Habitats and Natural Communities of Concern*, the proposed project would result in permanent impacts to 0.07 acre of Jesus Maria Creek and 0.14 acre of white alder riparian forest, and temporary impacts to 0.13 acre of Jesus Maria Creek and 0.11 acre of white alder riparian forest.

The permanent loss of potential habitat from construction of the proposed project would be associated with permanent impacts to Jesus Maria Creek, and the immediately adjacent areas within the banks of the creek, as described under habitat impacts for CRLF. Indirect effects would be similar to those described for CRLF. While unknown populations of FYLF may occur in the creek, the BSA is small and the proposed activities within the creek would be primarily temporary. The proposed project would involve replacing an existing structure with a similar structure. Following construction, the channel bottom in the temporarily impacted portions of the creek would remain natural (e.g., the existing bedrock and cobble bottom would remain), and the placement of riprap as rock slope protection would not reduce the quality of the habitat for use by the frog and would be partially offset by removal of the existing bridge, abutments, and rock slope protection, and reseeding disturbed areas along the creek banks outside of the permanent structure and rock slope protection with native species, which could improve the quality of the aquatic habitat following construction.

Potential impacts to FYLF would be minimized from implementation of the proposed avoidance and minimization measures.

Avoidance and Minimization Efforts

Species listed as candidate under CESA are afforded the same protection as those listed as threatened or endangered. As such, projects that would result in take of the species would require an incidental take permit under Section 2081 of the California Fish and Game Code. Because the project is not planned to begin construction until 2020 to 2023, there is the potential for the species to become either delisted or listed as threatened. The County shall coordinate with CDFW regarding the project's potential effects to the species, and if necessary, will obtain an incidental take permit from CDFW prior to construction, and will provide the compensatory mitigation as required by CDFW.

All BMPs and avoidance and minimization measures described for CRLF would apply to FYLF and would minimize impacts to the species, if present. The additional species-specific avoidance and minimization measures would apply.

- The County shall coordinate with CDFW regarding FYLF. If, through coordination, it is determined that an incidental take permit under Section 2081 of the Fish and Game Code is required, then the County shall obtain the necessary permit and shall provide appropriate compensatory mitigation for impacts to FYLF habitat as agreed upon with CDFW. This process may involve presence/absence surveys in the year prior to construction (at a minimum) to determine the status of the frog at the site. There are no standard CDFW-approved survey protocols for FYLF; therefore, if presence/absence surveys are conducted, the proposed protocols shall be provided to CDFW for review and approval prior to conducting the surveys.
- A qualified biologist shall survey the work site prior to the initiation of construction activities to ensure that FYLF is not present within the project site. If, at the time of construction, FYLF is candidate for listing as threatened or listed as threatened under CESA, handling of FYLF without a take permit pursuant to the CESA is not allowed. If FYLF is found in the project site during preconstruction surveys, construction activities shall not start until the frog has either been relocated by the qualified biologist to a suitable location up or downstream of the construction zone, or allowed to leave the area on its own (if the County has not obtained a take permit pursuant to CESA). The approved biologist shall notify the County project manager and CDFW within 24 hours if FYLF is found, and shall notify of any individuals that have been relocated, and shall initiate/reinitiate consultation with CDFW, as necessary.
- The preconstruction worker awareness training shall include a description of the FYLF and its habitat, the importance of the FYLF and its habitat, the avoidance and minimization measures that are being implemented to conserve the FYLF as they relate to the project, and the boundaries within which work may occur. Personnel will also be instructed on the penalties for not complying with avoidance and minimization measures. If new construction personnel are added to the project, the contractor will ensure that the new personnel received the mandatory training before starting work.
- The biological monitor's inspections and monitoring will involve monitoring for FYLF. If, at the time of construction, FYLF is candidate for listing as threatened or listed as threatened under

CESA, handling of FYLF without a take permit pursuant to the CESA is not allowed. If FYLF are present during construction, construction activities within 50 feet of the frog shall cease until either the biological monitor is able to relocate the frog to a suitable location up or downstream of the construction zone, or the frog is allowed to leave the area on its own (if the County has not obtained a take permit pursuant to CESA). The biological monitor shall notify the County project manager and CDFW within 24 hours if FYLF is found, and shall notify of any individuals that have been relocated, and shall initiate/reinitiate consultation with CDFW, as necessary.

Compensatory Mitigation

No compensatory mitigation is required for the FYLF at the time of document production; however, should FYLF become listed as threatened under CESA prior to construction, and through consultation with CDFW it is determined that an incidental take permit under Section 2081 of the Fish and Game Code is required, then the County shall obtain the necessary permit and provide appropriate compensatory mitigation for impacts to FYLF habitat as agreed upon with CDFW.

Cumulative Effects

Regional projects contributing to cumulative impacts on FYLF would be the same as those described for CRLF. Range wide habitat loss from the activities described for CRLF is a contributing factor to the decline of FYLF.

While the proposed project would result in a new bridge and approaches with a new alignment resulting in the loss of potential FYLF habitat, the project has a relatively small footprint that would in part be offset by the removal of the existing bridge and revegetation of the disturbed creek banks not being treated with rock slope protection. The proposed project is not expected to have an adverse effect on FYLF and is not expected to contribute substantially to cumulative effects that projects in the region may have on this species.

4.2.3 Discussion of Western Pond Turtle (*Emys marmorata*)

Status

Federal status – None

State status – Species of Special Concern

Other – None

Life History

Historically, the western pond turtle occurred in a wide variety of aquatic habitats west of the crest of the Sierra Nevada in California to approximately 6,000 feet amsl. The majority of the turtles occur below 3,500 feet amsl. The turtle remains in the vast majority of its range, although populations may be impacted (USFWS 1993). This species is a habitat generalist and is found along ponds, marshes, rivers, streams, and irrigation ditches that typically have muddy or rocky bottom and support aquatic vegetation. It is most often found in aquatic environments with plant communities dominated by watercress, cattail, and other aquatic vegetation. It prefers habitats with stable banks and open

areas to bask in, as well as underwater cover provided by logs, large rocks, bulrushes, or other vegetation. In streams, adults prefer pools to shallower areas. This subspecies generally leaves the aquatic site only to reproduce and to hibernate.

The western pond turtle also requires upland areas for hibernation and digging a nest to bury its eggs. The nests can be placed between 15 to 370 meters (52 to 1,219 feet) from watercourses; however, most pond turtles nest in uplands within 250 meters (820 feet) of water (Bury, unpublished in Monk & Associates 2013). Sunny, barren, and undisturbed (not disked) land provides optimal nesting habitat, while shady riparian habitat and planted agricultural fields do not provide suitable habitat (op. cit.).

Hibernation typically takes place from October or November to March or April and egg-laying occurs from March or April to August (Zeiner et. al. 1988). The period from egg laying to emergence of hatchlings is normally April to November, although in cooler climates, the majority of hatchlings overwinter in the nest and emerge in the spring following the year the egg was laid. Hatchlings and juveniles require shallow water with abundant emergent vegetation. This species is omnivorous, but feeds primarily on small aquatic invertebrates (USFWS 1993). This species is most visible during the warm summer months when it can be observed basking in the sun; however, it may bask in warm water and be more difficult to observe.

Survey Results

No western pond turtles were observed in the BSA during the biological reconnaissance survey on May 23, 2013 or during any subsequent site visits; however, pond turtles are often difficult to detect during visual encounter surveys conducted from the land. The CNDDDB records indicate the nearest documented occurrence of this species is from along the North Fork of the Mokelumne River, approximately 10 miles north of the BSA (Occurrence No. 443; CDFW 2018a). The observation was from 1988. A more recent occurrence is from 2002 in which approximately 30 individuals were observed in a freshwater pond approximately 11.4 miles northwest of the BSA (Occurrence No. 564). Additional occurrences are in the vicinity of the 2002 record.

Potential to Occur

Potentially suitable habitat in the BSA for this species would include Jesus Maria Creek, the riparian corridor, and the annual grassland habitat within approximately 820 feet of the creek. The aquatic habitat in the BSA does not feature preferred habitat characteristics and would not provide suitable habitat for all life stages because the pools are in-stream, the creek is fairly swift flowing in the spring and lacks backwaters, is relatively well shaded, and generally lacks emergent vegetation and other substrates for basking and cover. However, while not featuring preferred habitat characteristics, the turtle is a habitat generalist and the creek provides a perennial water source within the range of the species, and may be used for dispersal by this species. The soil banks of Jesus Maria Creek and adjacent riparian and annual grassland habitats provide opportunities for individuals of the species to build burrows which may be used for over-wintering. The BSA does not provide suitable breeding habitat – the site does not provide hatchlings and juveniles emerging in the spring with slow moving, shallow water with abundant emergent vegetation.

Project Impacts

If present in the BSA during construction, western pond turtle would be expected to be limited to the creek and immediately adjacent areas during the dry season, and may also use the annual grassland habitat within approximately 820 feet of the creek for hibernation from October through April.

Construction activities would take place during the dry season during which time adult and juvenile western pond turtle would be most active and would not be expected to be present in terrestrial habitat. If nests are present within the area of ground disturbance, they would be impacted by activities during the dry season. Construction activities with the potential to impact western pond turtle and their habitat include ground disturbing activities in the annual grassland habitat within approximately 820 feet of the creek, and activities immediately adjacent to and within the creek, including clearing and grubbing along the creek banks, grading the creek banks, placement of fill within the creek banks and creek for construction of the new bridge approaches, placement of rock slope protection along the new creek banks, diversion and dewatering activities, constructing falsework and permanent structures over the creek. Removing the existing bridge and abutments and restoring the location of the existing bridge will also require access to the creek and may impact the turtle.

Direct effects to western pond turtle using the site and habitat impacts from erosion, sedimentation, and potential spills would be similar to those described for CRLF. Permanent loss of potential habitat from construction of the proposed project would be associated with permanent impacts to Jesus Maria Creek, the riparian corridor, and annual grassland habitat within 820 feet of the creek. Indirect effects would be similar to those described for CRLF. Potential impacts to western pond turtle would be minimized from implementation of the proposed avoidance and minimization measures.

Avoidance and Minimization Efforts

All BMPs described for CRLF would apply to western pond turtle and would minimize impacts to the species, if present. Construction timing restrictions for CRLF would avoid and minimize impacts to hibernating western pond turtle. The following species-specific mitigation measures would also apply:

- A qualified biologist shall survey the project site prior to the initiation of construction activities to ensure that western pond turtle is not present. If western pond turtle is found in the construction area during preconstruction surveys, construction activities shall not start until the turtle has been relocated by the qualified biologist to a suitable location up or downstream of the construction zone, or until the turtle leaves the work area on its own. If an active pond turtle burrow is located and construction will occur during the hibernation period (October through April), a buffer area of approximately 300 feet shall be established to protect the nest and direct access to the creek. The buffer shall remain in place until the biological monitor determines that the turtle has dispersed, or until the end of the hibernation season. The approved biologist shall notify the County project manager and CDFW within 24 hours if western pond turtle and/or an active burrow is found, and shall notify of any individuals that have been relocated.

- The preconstruction worker awareness training shall include a description of the western pond turtle and its habitat, the importance of the western pond turtle and its habitat, the avoidance and minimization measures that are being implemented to conserve the western pond turtle as they relate to the project, and the boundaries within which work may occur. Personnel will also be instructed on the penalties for not complying with avoidance and minimization measures. If new construction personnel are added to the project, the contractor will ensure that the new personnel received the mandatory training before starting work.
- The biological monitor's inspections and monitoring will involve monitoring for western pond turtle. If western pond turtle are present during construction, construction activities within 50 feet of the turtle shall cease until the biological monitor is able to relocate the turtle to a suitable location up or downstream of the construction zone, or until the turtle leaves the work area on its own. The biological monitor shall notify the County project manager and CDFW within 24 hours if western pond turtle is found, and shall notify of any individuals that have been relocated.

Compensatory Mitigation

No compensatory mitigation is required for the western pond turtle.

Cumulative Effects

Regional projects contributing to cumulative impacts on western pond turtle would be the same as those described for CRLF. Range wide habitat loss from the activities described for CRLF is a contributing factor to the decline of the species.

While the proposed project would result in a new bridge and approaches with a new alignment resulting in the loss of potential western pond turtle habitat, the project has a relatively small footprint that would in part be offset by removal of the existing bridge and revegetation of the disturbed creek banks not being treated with rock slope protection and upland areas not being treated with a road material. The proposed project is not expected to have an adverse effect on western pond turtle and is not expected to contribute substantially to cumulative effects that projects in the region may have on this species.

4.2.4 Discussion of Raptors and Other Migratory Birds

Survey Results

The trees and shrubs in and adjacent to the BSA provide potential roosting or nesting habitat for various birds, including raptors. As previously mentioned, a pair of black phoebes was observed foraging over the creek, and several phoebe nests were observed under the bridge. A great horned owl was heard during the May 2013 biological reconnaissance survey. All other birds observed in the BSA are also protected while nesting by Fish and Game Code and/or the MBTA. These birds include: spotted towhee, house finch, turkey vulture, mourning dove, robin, and lesser goldfinch.

The number of intact trees and amount of shrubby vegetation in the BSA was substantially reduced from the Butte Fire in 2015. The overstory in the riparian forest was largely spared during the fire; however, the majority of the trees in the mixed conifer forest were burned and the shrubby understory in the white alder riparian forest and the mixed conifer forest was substantially burned. Most of the trees in the southern portion of the BSA were killed during the fire and a substantial number have been cut down; however, some of the larger trees survived and would be expected to regenerate foliage over time. While this loss of vegetation and trees would be expected to impact the variety and number of birds likely to use the BSA for nesting, some species of raptors and other birds may use burned trees for nesting following a fire, and intact trees along the riparian corridor and in the northern portion of the project site provide potential nesting habitat for raptors and other tree nesting birds. While the shrubby understory has been largely lost from the riparian zone and mixed conifer forest, the understory is expected to regenerate and would be more extensive in areas with a reduced overstory until the overstory regenerates.

Project Impacts

If construction of the proposed project commences during the nesting period for raptors or other migratory birds, construction activities and construction-related disturbance (e.g., noise, vibration, increased human activity) could adversely impact individuals if they were to nest in the BSA or in suitable habitat adjacent to the BSA. Impacts to nesting birds would be prevented through avoidance and minimization measures involving preconstruction nesting surveys and applying a suitable non-disturbance buffer around nesting birds, if present.

Construction of the new approaches and the bridge would require the removal of several trees and riparian vegetation from within the project footprint. As previously mentioned, the majority of the shrubby understory was extensively burned in the Butte Fire and many of the trees on the project site are burned and a substantial number in the southern portion of the BSA have been cut down. As such, the total number of trees to be removed for the proposed project would be relatively small (approximately 17 - 25 live trees consisting of approximately 12 oaks, 2 - 5 white alder, and 3 - 8 ponderosa pine). These impacts would result in the loss of potential nesting and foraging habitat for raptors and tree-nesting passerines. Depending on the species present, the new roadway alignment may not negatively impact raptors foraging in the area. The road features low traffic, and the newly cleared area may provide expanded foraging habitat for species hunting on the ground or requiring less densely vegetated habitat for aerial hunting. The conversion of existing undeveloped habitat to construct the new approaches would be offset by the conversion of the existing bridge approaches to natural habitat. The existing bridge approaches would no longer be part of the traveled through-way, and could be used by birds using open areas for forage. Furthermore, raptor foraging and nesting habitat is abundant in the vicinity of the BSA. The conversion of potential raptor foraging habitat to a rural roadway and the loss of several trees within the project footprint is not expected to adversely impact these species.

Black phoebes or other passerines protected under the MBTA nesting on the bridge or in vegetation in the BSA or immediate vicinity could be adversely impacted by the construction-related activity through nest disturbance, nest abandonment, or direct injury or death. Trees and vegetation that may be used by passerines for nesting, and the existing bridge that may be used by black phoebes for nesting, would be removed outside of the nesting season, or only after a biologist determines the

tree/vegetation and/or existing bridge is not actively used for nesting. Despite these avoidance and minimization measures, the displaced birds would be at greater risk of nesting failure for the season if they are unable to locate and establish an alternative nesting location. These impacts would be temporary, and would be for the duration of construction. Following construction, the birds would be able to return to the site and use the area for nesting. While the nests on the existing bridge would be lost from removal of the bridge, construction of the proposed longer and wider bridge would provide an increase in potential nesting habitat for black phoebes and other birds with similar nesting habits. With the proposed avoidance and minimization measures, the proposed project would not adversely impact nesting raptors and other migratory birds.

Avoidance and Minimization Efforts

The following avoidance and minimization measures are general provisions in accordance with the MBTA. These measures shall be implemented when work occurs on or in the vicinity of structures or natural areas that may be subject to nesting by migratory birds that may be adversely impacted, injured, or killed during construction activities.

- The contractor shall protect migratory birds, their occupied nests, and their eggs as specified in these special provisions. Nesting is typically February 15 to September 1, or as determined appropriate in consultation with the Caltrans District Biologist.
- The removal of trees shall be limited to only those necessary to construct the proposed project. Trees to be removed or trimmed shall be removed and/or trimmed outside of the nesting season (between September 2 and February 14), if possible.
- The existing bridge shall be removed outside of the nesting season (between September 2 and February 14), if possible. If the bridge must be removed during the breeding/nesting season for black phoebes and other bridge nesting birds (typically February 15 to September 1) the following measures shall be taken:
 - The bridge shall be surveyed by a qualified biologist no more than three days prior to removal of the bridge. If no active bird nests (containing eggs or young) are observed on the bridge during the survey, then bridge removal may commence (note that it is very likely that black phoebes will nest on the bridge). Any inactive bird nests or nests not containing eggs or young shall be removed from the bridge by the qualified biologist or under their direct supervision.
 - If active nests are observed on the bridge during the survey, bridge removal shall be delayed until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient mobility to avoid project construction zones.
 - To avoid establishment of active nests, beginning prior to February 15 and continuing into the nesting season (or as long as black phoebes or other birds attempt to nest on the bridge, as determined by a qualified biologist), a qualified biologist shall inspect the bridge regularly for bird nesting activity and remove all nests prior to egg laying to ensure that no active nests become established on the bridge. Alternatively,

measures to prevent birds from nesting on the bridge could be implemented, such as installation of netting.

- If construction activities, including vegetation clearing and tree removal, will occur during the breeding/nesting season for migratory birds (typically February 15 to September 1), a qualified biologist shall conduct preconstruction surveys for migratory birds within the BSA and all areas within 500 feet of the BSA (where accessible), no earlier than three days prior to the start of ground disturbing activities. The nesting survey shall include examination of the existing bridge and all trees and shrubs on or within 500 feet of the BSA, not just trees slated for removal, since ground vibrations and noise from construction can disturb nesting birds and potentially result in nest abandonment. Areas within 500 feet of the BSA shall be surveyed on foot if accessible or from within the BSA or publicly accessible areas by scanning the surrounding land with the aid of binoculars. If no nesting activity is observed during the surveys or within 500 feet of the tree or vegetation to be removed or trimmed, then the activity may commence.
- If nesting raptors or other nesting migratory birds are identified during the surveys, a 500-foot buffer shall be established for nesting raptors, a 100-foot buffer shall be established for nesting passerines, and a 50-foot buffer shall be established for nesting black phoebes. Temporary exclusionary fencing with signs describing the sensitivity of the area shall be installed to establish the no-disturbance buffer around the nest.
 - No construction or earth-moving activity shall occur within the established buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient mobility to avoid project construction zones. This typically occurs by September 1. This date may be earlier or later, and shall be determined by a qualified biologist. If a qualified biologist is not hired to monitor the nesting birds, then the full buffer shall be maintained in place from February 1 through the month of August. The buffer may be removed and work may proceed as otherwise planned within the buffer on September 2.
 - The size of the non-disturbance buffer may be altered if a qualified biologist conducts behavioral observations and determines the nesting raptors or other migratory birds are well acclimated to the disturbance. If this occurs, the biologist shall prescribe a modified buffer that allows sufficient room to prevent undue disturbance/harassment to nesting birds. If the buffer is reduced, the qualified biologist shall remain on site to monitor the birds' behavior during heavy construction. The biologist shall have the authority to stop work if it is determined the project is adversely impacting nesting activities.

Compensatory Mitigation

No compensatory mitigation is required for raptors and migratory birds.

Cumulative Effects

Significant timber harvesting and agricultural activities are ongoing in the region. These activities are known to cause habitat loss, fragmentation, and degradation, which impacts a variety of plant and animal species, including raptors and other migratory birds. Additional activities in the region potentially impacting raptors and other migratory birds include road and utility construction and maintenance, overgrazing, and water irrigation and storage projects that may not be funded, permitted, or constructed by a Federal Agency. Residential development and urbanization also contribute to the loss and degradation of nesting habitat for raptors and other migratory birds. Additional effects associated with such activities include contamination, poisoning, increased predation, and competition from non-native species associated with human alteration of the habitat, or introduction of non-native species.

The proposed project has a relatively small footprint, and with the proposed avoidance and minimization measures would not contribute substantially to cumulative effects that projects in the region may have on this species.

4.3 Special Status Plant Species

4.3.1 Discussion of Dubious Pea (*Lathyrus sulphureus* var. *argillaceus*)

Status

Federal status – none

State status – none

Other – CRPR 3

Dubious pea is a perennial herb found on slopes in cismontane woodland and montane coniferous forests from 492 to 3,051 feet amsl. This species is known from Calaveras, El Dorado, Nevada, Placer, Shasta, and Tehama Counties. Dubious pea blooms from April through May (CNPS 2018).

Survey Results

This species was not identified within the BSA during a rare plant survey conducted within the blooming period for this species on May 23, 2013. The nearest CNDDDB record of this species to the BSA is from 1936 where the species was documented on a roadside slope approximately 2.9 miles northwest of the project site (Occurrence No. 1; CDFW 2018a). No additional occurrences of this species are documented in the area.

Potential to Occur

No *Lathyrus* sp. were observed in the BSA during multiple site visits, including one visit during the bloom period. However, it has been multiple years since the bloom season survey was conducted; botanical surveys are typically considered valid for two seasons after they are conducted. Potentially suitable habitat is present in the mixed conifer forest in the BSA. The Butte Fire through the BSA burned the overstory and shrub layer of the mixed conifer forest habitat south of Jesus Maria Creek. Such habitat modifications may offer opportunities for previously inconspicuous plant species within

a site to germinate, if the seeds are present in the soils. While this species has not been observed in the BSA, there is the potential for the species to colonize suitable habitat in the BSA prior to construction.

Project Impacts

If the species is present in the BSA during construction, there is the potential for direct and indirect impacts to individual plants and their habitat. Potentially suitable habitat is present on the slopes in the mixed coniferous forest habitat adjacent to Whiskey Slide Road north and south of the creek. If individuals of this species colonize suitable habitat in the BSA prior to construction, potential project impacts would include direct or indirect impacts to the individuals present and habitat removal.

The proposed project will impact existing slopes in the mixed conifer forest north and south of the bridge. If the species is present in suitable habitat during construction, individuals would be permanently impacted from cut and fill activities. Indirect effects may occur as a result of increased levels of fugitive dust during construction activities. Avoided individuals may be harmed from excessive amounts of fugitive dust if they occur in the vicinity of construction activities. Further, ground disturbing and construction activities may result in the introduction and spread of invasive species which may degrade the habitat for the native plant and compete with native species for resources. Implementation of the proposed avoidance and minimization measures will reduce the potential impacts of the proposed project on dubious pea.

Avoidance and Minimization Efforts

- Rare plant surveys for dubious pea shall be conducted by a qualified botanist in appropriate habitats prior to ground-disturbing activities. The survey shall be conducted during the blooming season for the dubious pea (April through May), and in compliance with all CDFW and CNPS published survey guidelines. If no special-status plants are found in the project site, no further measures are necessary for special-status plants. Project construction shall not be initiated until all special-status plant surveys are completed and subsequent mitigation, if necessary, is implemented.
- If special-status plants are identified within the BSA, those individuals or populations shall be avoided to the maximum degree practicable. Special-status plants found outside of permanent impact areas, such as in staging areas and buffer zones around cut/fill areas designated for potential temporary impacts, shall be avoided. Fencing and signage will be placed around any avoided special-status plant(s) to identify the plant location(s) as an environmentally sensitive area that must be protected during construction. Appropriate BMPs will be implemented to protect the avoided plants from fugitive dust, sedimentation, harmful substances, or contaminated runoff from the construction area that could harm the plants. If a special-status plant is found within the construction limits and cannot be avoided, CDFW will be consulted regarding the appropriate mitigation measures. Mitigation measures could include, but are not limited to, documentation, and/or transplanting of individuals or seed to designated areas outside of the construction limits, and/or collection of seed for deposit in a qualified repository approved by CDFW. Any mitigation plan developed in consultation with

CDFW shall be implemented prior to the commencement of construction activities that would impact special-status plants.

- A CNDDDB form shall be filled out and submitted to CDFW for any special-status plant species identified within the project site.

Compensatory Mitigation

No compensatory mitigation is necessary for dubious pea.

Cumulative Effects

Other activities in the region involving ground disturbance and permanent loss of natural habitats from altering the habitat to other land uses, in combination with the proposed project would result in cumulative habitat loss, fragmentation, and degradation. Agricultural activities and rural residential land uses are widespread in the region. Additional activities in the region potentially impacting dubious pea include road and utility construction and maintenance, overgrazing, and water irrigation and storage projects that may not be funded, permitted, or constructed by a Federal Agency. Residential development and urbanization also contribute to the loss and degradation of habitat for the special status plant. In addition to direct removal of suitable habitat from projects in the area, the introduction and spread of non-native species is typically associated with human alteration of habitats. Non-native species may degrade the habitat for native plants and compete with native species for resources.

The proposed project has a relatively small footprint, and with the proposed avoidance and minimization measures would not contribute substantially to cumulative effects that projects in the region may have on this species.

Chapter 5 – Conclusions and Regulatory Determinations

The following sections include a discussion of the regulatory requirements that pertain to the proposed project. **Table 7** summarizes the permits and approvals that would be required for project construction.

Table 7. Permits and Approvals Required for Project Construction

Agency	Permit/Approval	Status
<i>Federal</i>		
U.S. Fish and Wildlife Service	Federal Endangered Species Act, Informal Section 7 Consultation for California red-legged frog	Pending
U.S. Army Corps of Engineers	Clean Water Act, Section 404 Nationwide Permit	Pending
<i>State</i>		
California Department of Fish and Wildlife	California Fish and Game Code, Section 1600 Streambed Alteration Agreement	Pending
	California Fish and Game Code, Section 2081 Consultation for foothill yellow-legged frog, if not delisted by the year prior to construction	Pending
Central Valley Regional Water Quality Control Board	Clean Water Act, Section 401 Water Quality Certification	Pending
	General Order for Dewatering and other Low-threat Discharge to Surface Waters Permit	Pending
	National Pollutant Discharge Elimination System Construction Stormwater Permit	Pending

5.1 Federal Endangered Species Act Consultation Summary

The United States Congress passed the FESA in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with NEPA to help protect the ecosystems upon which endangered and threatened species depend.

The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). “Harass” is defined as actions that create the likelihood of injury to listed species to such an extent

as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

The FESA directs all federal agencies to participate in endangered species conservation. Specifically, Section 7 of the FESA charges federal agencies to aid in the conservation of listed species [Section 7(a)(1)], and requires federal agencies to ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats [Section 7(a)(2)]. The FESA requires federal agencies to consult with the USFWS to ensure that actions they fund, authorize, permit, or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats.

On May 18, 2016, Dominic Vitali and Haiyan Zhang from Caltrans District 10 accompanied Chris Nagano from the USFWS on a field visit to the bridge replacement project site. It was then determined by the USFWS that formal Section 7 FESA consultation would be required for the CRLF.

During coordination between Caltrans and the USFWS in late March 2017 on separate, but similar Calaveras County projects, it was determined that project consultation on CRLF could reasonably be conducted under a *may affect, but is not likely to adversely affect* finding if proper justification using the best available scientific and commercial data could be provided. Due to this recent development, the finding for CRLF was changed to *may affect, but is not likely to adversely affect*.

Potential effects of an action on federal-listed species or critical habitat are evaluated in a BA, as such, a BA will be prepared to analyze the effects of the project on federal-listed CRLF and Delta smelt. The BA will support informal Section 7 FESA consultation with the USFWS for only federal-listed species (CRLF and Delta smelt). No FESA consultation has occurred to date. As the designated federal lead agency, Caltrans will initiate consultation upon completion of the BA. The findings in the BA indicate the project *may affect, but is not likely to adversely affect* CRLF and there will be *no effect* to Delta smelt.

5.2 Essential Fish Habitat Consultation Summary

As previously mentioned, the National Oceanic and Atmospheric Agency (NOAA) online California Species List Tool was used to determine the presence of fish species, Critical Habitat and EFH for fish, including salmon in the topographic quads in which Jesus Maria Creek is located - "Rail Road Flat, CA" and "Fort Mountain, CA" USGS quads (NOAA 2018). Jesus Maria Creek does not occur within the range, distribution or evolutionarily significant unit of any federally-listed fish, nor does it contain designated Critical Habitat for any federally-listed fish species or EFH. No consultation with NMFS/NOAA is required.

5.3 California Endangered Species Act Consultation Summary

The State of California enacted the CESA in 1984. CESA is similar to the FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the CDFW when preparing CEQA documents. The purpose is to ensure that the state lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable

and prudent alternatives available (Fish and Game Code Section 2080). The CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the state’s prohibition against take of a listed species if the “take” of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish and Game Code Section 2081).

The status of FYLF was updated from a Species of Special Concern to candidate for listing as threatened under the California Endangered Species Act on July 7, 2017 (Regulatory Notice No. 27-Z). Jesus Maria Creek provides suitable habitat for FYLF and this species may be affected by the proposed project.

Species listed as candidate under CESA are afforded the same protection as those listed as threatened or endangered. As such, projects that would result in take of the species would require an incidental take permit under Section 2081 of the California Fish and Game Code. Because the project is not planned to begin construction until 2020, there is the potential for the species to become either delisted or listed as threatened. The County will coordinate with CDFW regarding the project’s potential effects to the species, and if necessary, will obtain an incidental take permit from CDFW prior to construction, and will provide the compensatory mitigation as required by CDFW.

5.4 Wetlands and Other Waters Coordination Summary

5.4.1 Federal Jurisdictional Waters

The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. “Discharges of fill material” is defined as the addition of fill material into waters of the United States, including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 CFR §328.2(f)]. In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the RWQCB that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the United States include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 CFR §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric

soils, and wetland hydrology existing under the “normal circumstances” for the site. The lateral extent of non-tidal waters is determined by delineating the OHWM [33 CFR §328.4(c)(1)]. The OHWM is defined by the USACE as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 CFR §328.3(e)].

A Preliminary Wetland Delineation has been prepared for the project and will be submitted to the USACE for verification. Potentially jurisdictional aquatic resources in the BSA are limited to Jesus Maria Creek, which is depicted on **Figure 4** in **Appendix A**. Prior to construction of the proposed project, the project proponent shall obtain CWA Section 401 and 404 permits from the RWQCB and USACE, respectively.

5.4.2 State Jurisdictional Waters

The CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the Fish and Game Code. Under Section 1602, a party must notify CDFW if a proposed project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any ‘material from the streambeds, except when the department has been notified pursuant to Section 1602.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFW identifying the approved activities and associated mitigation measures.

Jesus Maria Creek and its riparian habitat are subject to CDFW jurisdiction under the LSAA program. Prior to construction of the proposed project, the project proponent shall obtain an LSAA from CDFW for impacts to Jesus Maria Creek and its adjacent riparian habitat.

5.5 Invasive Species

In compliance with the Executive Order 13112 (Invasive Species), and subsequent guidance from FHWA, the proposed landscaping and erosion control included in the project would not use species listed as noxious weeds. To prevent the introduction and spread of invasive species identified within the BSA (Section 3.1.6, *Invasive Species*), Caltrans has issued policy guidelines, which provide a framework from addressing roadside vegetation management issues for construction activities and maintenance programs. These include the inspection and cleaning of construction equipment and the implementation of eradication strategies should an invasion occur. To control the spread of invasive species either to or from the project area, the following measures shall be included in the construction contract special provisions:

- All equipment and vehicles shall be thoroughly cleaned to remove dirt and weed seeds prior to being transported or driven to or from the project site. Incoming equipment and vehicles shall be inspected by the biological monitor prior to entering the site and noncompliant vehicles shall not be allowed to enter the project site.

- The borrow site or stockpile shall be inspected for the presence of noxious weeds or invasive plants.
 - If noxious weeds or invasive plants are present, the contractor shall remove approximately five inches of the surface of the material from the borrow or stockpile site before transporting to the project site.
 - Before removal, this material shall be chemically or mechanically treated to remove the existing noxious weeds and invasive plants, and shall not be used for the project without approval.
- Weed-free erosion control materials shall be used for erosion control.
- A qualified biologist shall review the Erosion Control/Revegetation Plan to ensure that no invasive species are included.
- Upon completion of grading, all areas of temporary disturbance shall be revegetated with native species or seeded with a native seed mix.

Chapter 6 – References

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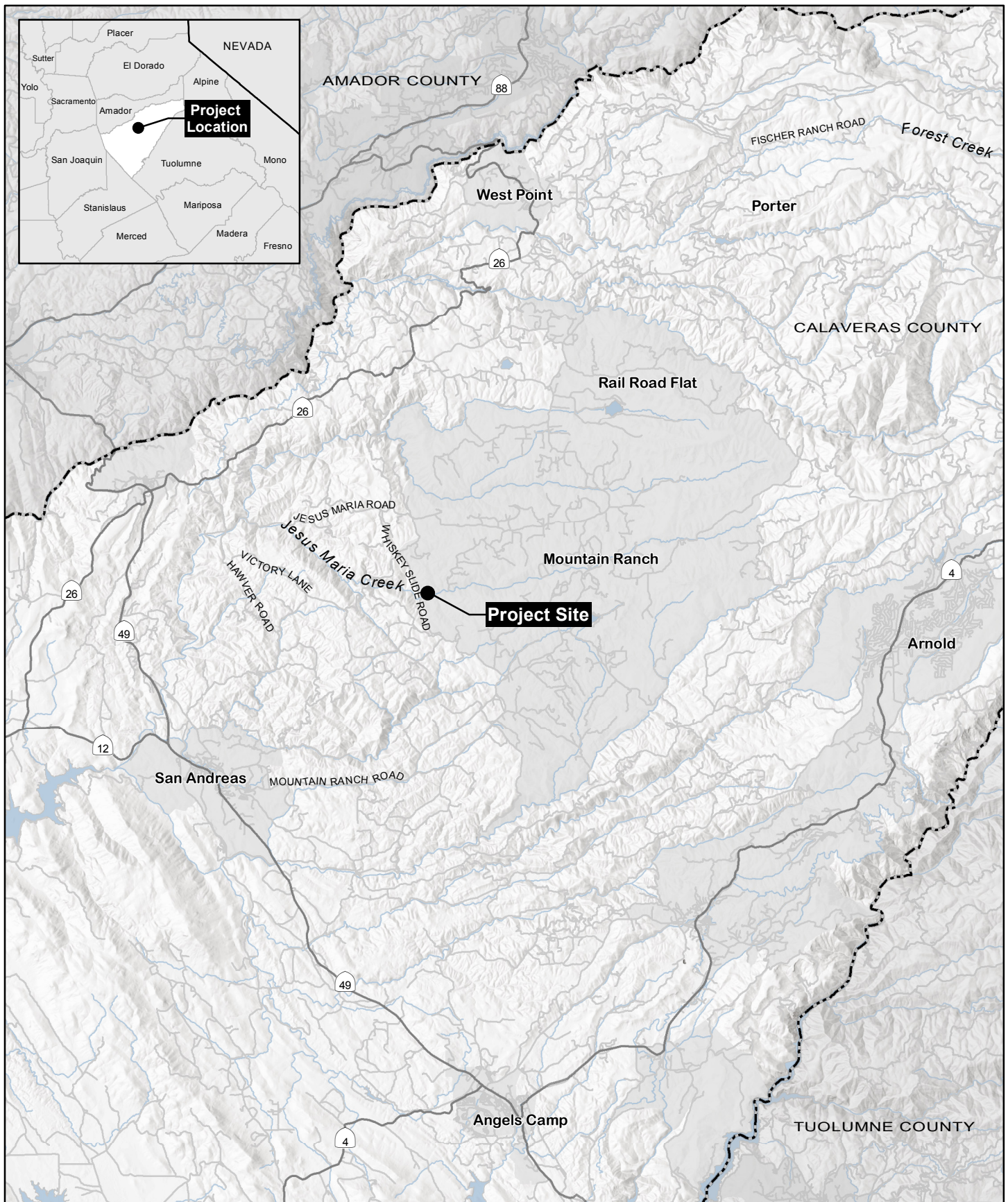
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Appendix A

Figures



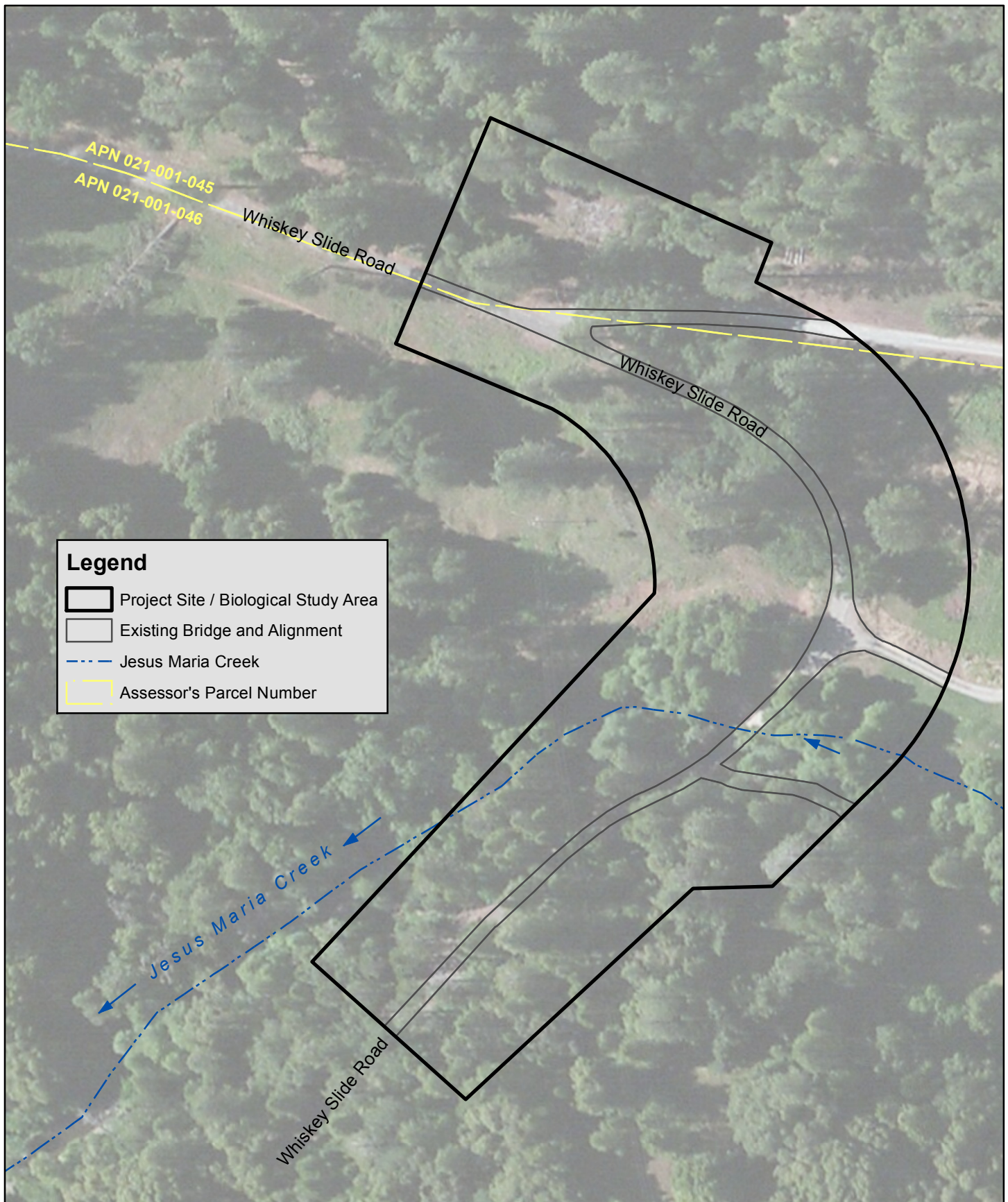
1 inch = 3 miles

0 1.5 3 6 Miles

Source: Terrain: Multi-Directional Hillshade
Map Date: May 2017

Figure 1 - Site & Vicinity

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT
Calaveras County, CA



Legend

- Project Site / Biological Study Area
- Existing Bridge and Alignment
- Jesus Maria Creek
- Assessor's Parcel Number



1 inch = 100 feet

0 50 100 200 Feet

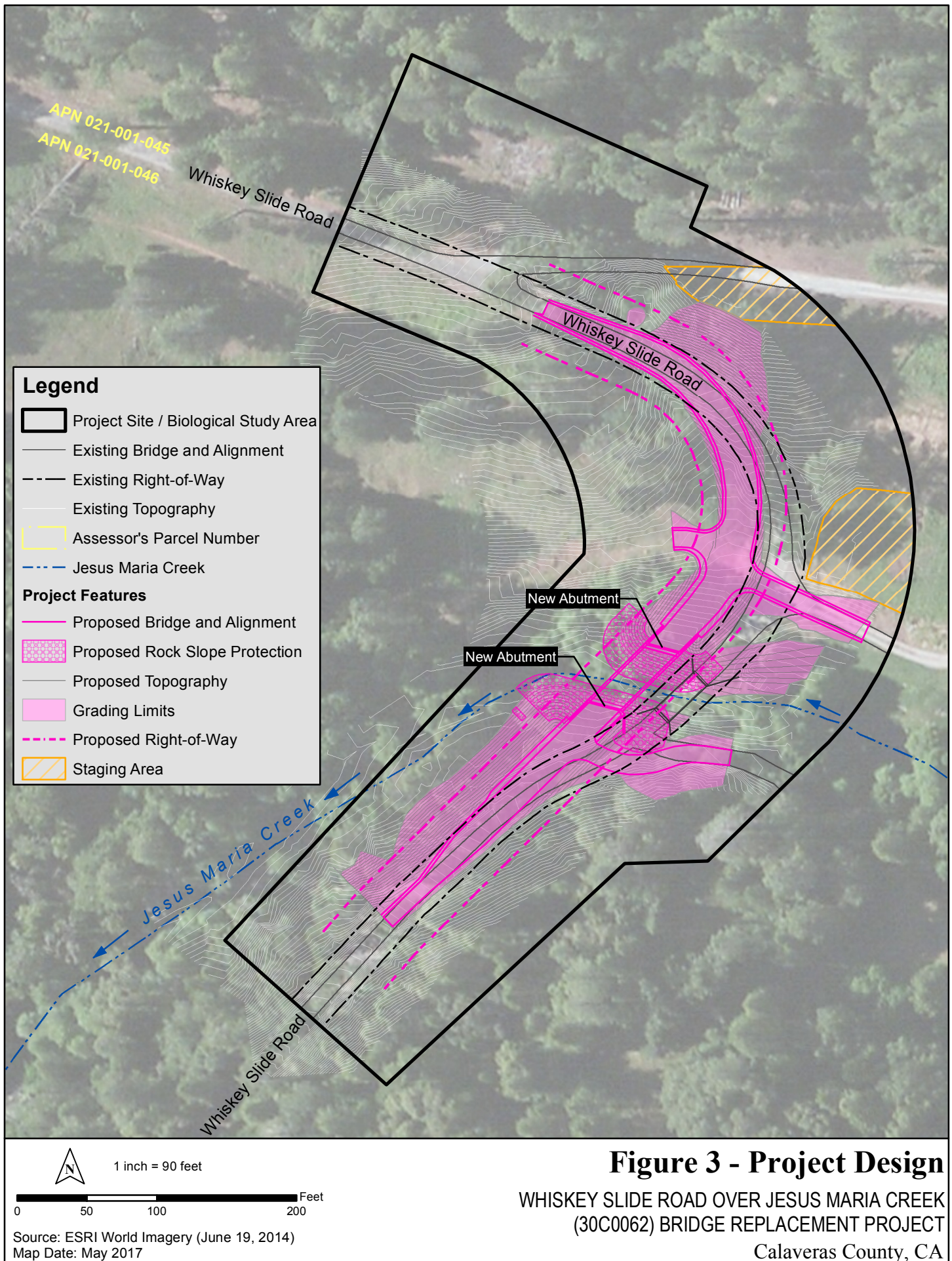
Source: ESRI World Imagery (June 19, 2014)

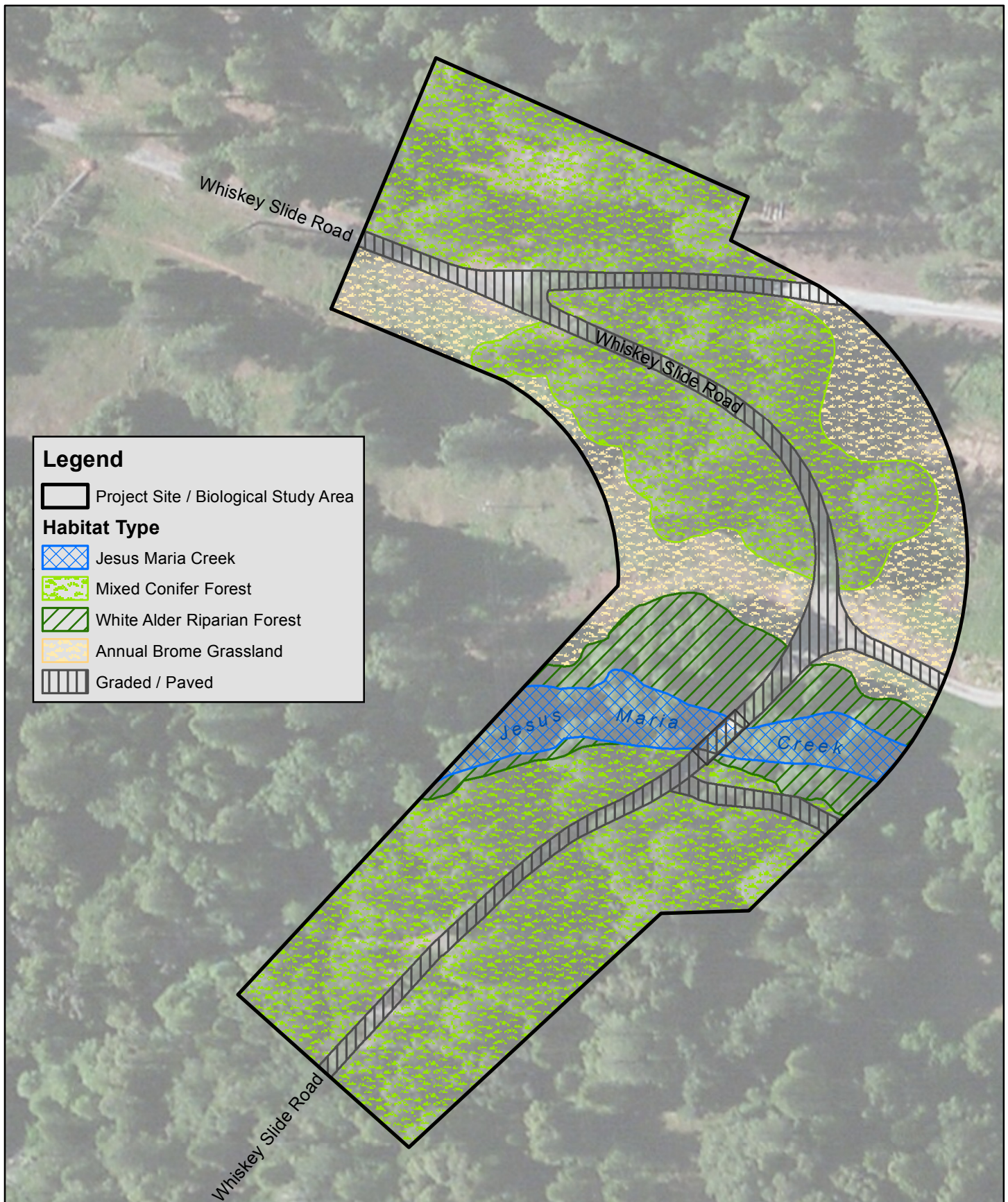
Map Date: May 2017

Figure 2 - Aerial Photograph

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA





Legend

Project Site / Biological Study Area

Habitat Type

Jesus Maria Creek

Mixed Conifer Forest

White Alder Riparian Forest

Annual Brome Grassland

Graded / Paved



1 inch = 90 feet

0 50 100 200 Feet

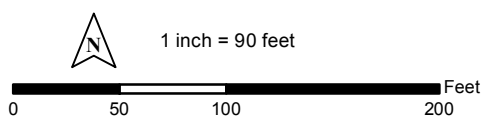
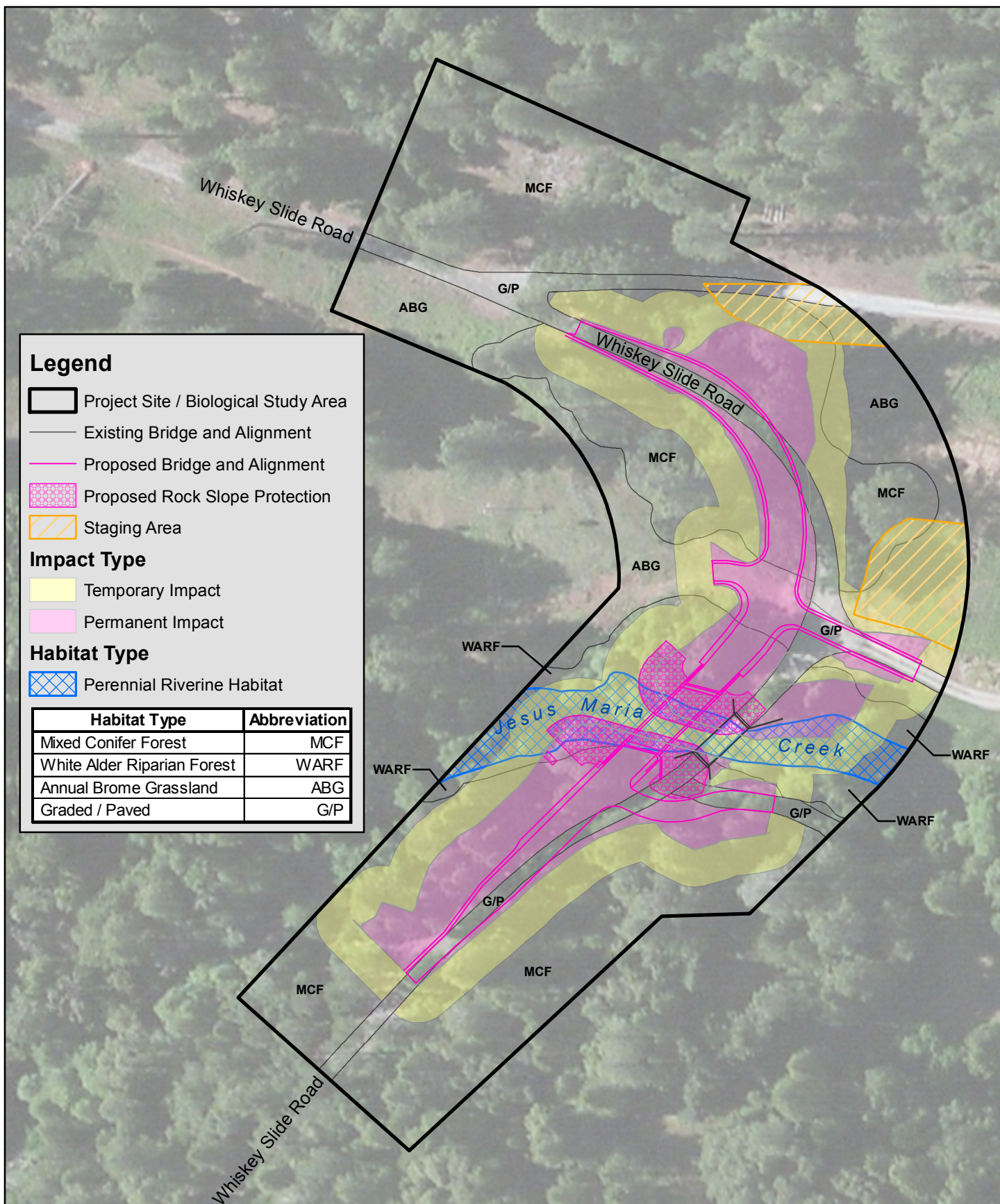
Source: ESRI World Imagery (June 19, 2014)

Map Date: May 2017

Figure 4 - Habitat Map

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA



Source: ESRI World Imagery (June 19, 2014)
Map Date: May 2017

Figure 5 - Impact Area

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT
Calaveras County, CA

Appendix B
Regionally Occurring Species Lists



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

July 31, 2018

Consultation Code: 08ESMF00-2018-SLI-2865

Event Code: 08ESMF00-2018-E-08420

Project Name: TYL-04 Whiskey Slide Road Bridge

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2018-SLI-2865

Event Code: 08ESMF00-2018-E-08420

Project Name: TYL-04 Whiskey Slide Road Bridge

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Bridge replacement

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.25828455719852N120.57905112006692W>



Counties: Calaveras, CA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS (Pine Grove (3812046) OR West Point (3812045) OR Devils Nose (3812044) OR Mokelumne Hill (3812036) OR Rail Road Flat (3812035) OR Fort Mountain (3812034) OR San Andreas (3812026) OR Calaveritas (3812025) OR Murphys (3812024))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter gentilis</i> northern goshawk	ABNKC12060	None	None	G5	S3	SSC
<i>Accipiter striatus</i> sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
<i>Allium tribracteatum</i> three-bracted onion	PMLIL022D0	None	None	G2	S2	1B.2
<i>Ambystoma macrodactylum sigillatum</i> southern long-toed salamander	AAAAA01085	None	None	G5T4	S3	SSC
<i>Ammonitella yatesii</i> tight coin (=Yates' snail)	IMGASB0010	None	None	G1	S1	
<i>Arctostaphylos myrtifolia</i> lone manzanita	PDERI04240	Threatened	None	G1G2	S1S2	1B.2
<i>Banksula grubbsi</i> Grubbs' cave harvestman	ILARA14060	None	None	G1	S1	
<i>Banksula tutankhamen</i> King Tut Cave harvestman	ILARA14200	None	None	G1	S1	
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Calochortus clavatus var. avius</i> Pleasant Valley mariposa-lily	PMLIL0D095	None	None	G4T2	S2	1B.2
<i>Chlorogalum grandiflorum</i> Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Crocianthemum suffrutescens</i> Bisbee Peak rush-rose	PDCIS020F0	None	None	G2?Q	S2?	3.2
<i>Diplacus pulchellus</i> yellow-lip pansy monkeyflower	PDSCR1B280	None	None	G2	S2	1B.2
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Eryngium pinnatisectum</i> Tuolumne button-celery	PDAP10Z0P0	None	None	G2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Erythranthe marmorata</i> Stanislaus monkeyflower	PDPHR01130	None	None	G2?	S2?	1B.1
<i>Horkelia parryi</i> Parry's horkelia	PDROS0W0C0	None	None	G2	S2	1B.2
<i>Hydroporus leechi</i> Leech's skyline diving beetle	IICOL55040	None	None	G1?	S1?	
<i>Ione Chaparral</i> Ione Chaparral	CTT37D00CA	None	None	G1	S1.1	
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G5	S3S4	
<i>Lathyrus sulphureus var. argillaceus</i> dubious pea	PDFAB25101	None	None	G5T1T2	S1S2	3
<i>Lomatium stebbinsii</i> Stebbins' lomatium	PDAP11B1V0	None	None	G2	S2	1B.1
<i>Margaritifera falcata</i> western pearlshell	IMBIV27020	None	None	G4G5	S1S2	
<i>Navarretia paradoxiclara</i> Patterson's navarretia	PDPLM0C150	None	None	G2	S2	1B.3
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<i>Sphenopholis obtusata</i> prairie wedge grass	PMPOA5T030	None	None	G5	S2	2B.2
<i>Stygobromus gradyi</i> Grady's Cave amphipod	ICMAL05460	None	None	G1	S1	

Record Count: 30

Plant List

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

Search Criteria

Found in Quads 3812046, 3812045, 3812044, 3812036, 3812035, 3812034, 3812026 3812025 and 3812024;

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

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Allium sanbornii var. sanbornii	Sanborn's onion	Alliaceae	perennial bulbiferous herb	May-Sep	4.2	S3S4	G4T3T4
Allium tribracteatum	three-bracted onion	Alliaceae	perennial bulbiferous herb	Apr-Aug	1B.2	S2	G2
Arctostaphylos myrtifolia	lone manzanita	Ericaceae	perennial evergreen shrub	Nov-Mar	1B.2	S1S2	G1G2
Calochortus clavatus var. avius	Pleasant Valley mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G4T2
Ceanothus fresnensis	Fresno ceanothus	Rhamnaceae	perennial evergreen shrub	May-Jul	4.3	S4	G4
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	May-Jun	1B.2	S3	G3
Clarkia virgata	Sierra clarkia	Onagraceae	annual herb	May-Aug	4.3	S3	G3
Claytonia parviflora ssp. grandiflora	streambank spring beauty	Montiaceae	annual herb	Feb-May	4.2	S3	G5T3
Crocanthemum suffrutescens	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	Apr-Aug	3.2	S2?	G2?Q
Diplacus pulchellus	yellow-lip pansy monkeyflower	Phrymaceae	annual herb	Apr-Jul	1B.2	S2	G2
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual / perennial herb	May-Aug	1B.2	S2	G2
Erythranthe marmorata	Stanislaus monkeyflower	Phrymaceae	annual herb	Mar-May	1B.1	SX	GXQ
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.2	S2	G2
Lathyrus sulphureus var. argillaceus	dubious pea	Fabaceae	perennial herb	Apr-May	3	S1S2	G5T1T2
Lilium humboldtii ssp. humboldtii	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	4.2	S3	G4T3
Lomatium stebbinsii	Stebbins' lomatium	Apiaceae	perennial herb	Mar-May	1B.1	S2	G2
Navarretia paradoxiara	Patterson's navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	1B.3	S2	G2
Sphenopholis obtusata	prairie wedge grass	Poaceae	perennial herb	Apr-Jul	2B.2	S2	G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 31 July 2018].

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[The Jepson Flora Project](#)
[The Consortium of California Herbaria](#)
[CalPhotos](#)

Questions and Comments

rareplants@cnps.org

Appendix C

List of Species Observed

TABLE C-1. PLANT SPECIES OBSERVED				
FAMILY	SCIENTIFIC NAME	COMMON NAME	N/I ¹	CAL-IPC PEST RATING ²
FERNS				
Dryopteridaceae	<i>Dryopteris arguta</i>	Wood fern	N	--
Equisetaceae	<i>Equisetum</i> sp.	Horsetail, scouring rush	N	--
Pteridaceae	<i>Pentagramma triangularis</i>	Goldback fern	N	--
Woodsiaceae	<i>Cystopteris fragilis</i>	Fragile fern	N	--
GYMNOSPERMS				
Cupressaceae	<i>Calocedrus decurrens</i>	Incense cedar	N	--
Pinaceae	<i>Pinus ponderosa</i>	Ponderosa pine	N	--
EUDICOTS				
Anacardiaceae	<i>Toxicodendron diversilobum</i>	Western poison oak	N	--
Apiaceae	<i>Anthriscus caucalis</i>	Bur-chervil	I	--
	<i>Daucus pusillus</i>	Daucus	N	--
	<i>Osmorhiza berteroi</i>	Sweet-cicely	N	--
	<i>Sanicula crassicaulis</i>	Sanicula	N	--
	<i>Torilis arvensis</i>	Field hedge parsley	I	Moderate
Apocynaceae	<i>Asclepias cordifolia</i>	Purple milkweed	N	--
Asteraceae	<i>Artemisia douglasiana</i>	Mugwort	N	--
	<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian thistle	I	Moderate
	<i>Centaurea solstitialis</i>	Yellow star-thistle	I	High
	<i>Erigeron philadelphicus</i> var. <i>philadelphicus</i>	Philadelphia fleabane	N	--
	<i>Hypochaeris glabra</i>	Smooth cat's-ear	I	Limited
	<i>Lactuca serriola</i>	Prickly lettuce	I	--
	<i>Taraxacum officinale</i>	Common dandelion	I	--
Betulaceae	<i>Alnus rhombifolia</i>	White alder	N	--
Boraginaceae	<i>Myosotis discolor</i>	Changing forget-me-not	I	--
	<i>Nemophila</i> sp.	Nemophila	N	--
	<i>Plagiobothrys nothofulvus</i>	Rusty popcornflower	N	--
Brassicaceae	<i>Barbarea verna</i>	Early winter cress	I	--
	<i>Capsella bursa-pastoris</i>	Shepherd's purse	I	--
	<i>Cardamine oligosperma</i>	Bitter-cress	N	--
	<i>Hirschfeldia incana</i>	Summer mustard	I	Moderate
	<i>Nasturtium officinale</i>	Water cress	N	--
	<i>Raphanus sativus</i>	Radish	I	--
	<i>Sisymbrium officinale</i>	Hedge mustard	I	--
Caprifoliaceae	<i>Lonicera</i> sp.	Honeysuckle	--	--
	<i>Symphoricarpos</i> sp.	Snowberry	N	--
Caryophyllaceae	<i>Cerastium glomeratum</i>	Mouse-ear chickweed	I	--
	<i>Silene gallica</i>	Small-flower catchfly	I	--
Convolvulaceae	<i>Convolvulus arvensis</i>	Bindweed	I	--
Datisceae	<i>Datisca glomerata</i>	Durango root	N	--
Ericaceae	<i>Arbutus menziesii</i>	Pacific madrone	N	--
	<i>Arctostaphylos</i> sp.	Manzanita	N	--
Euphorbiaceae	<i>Croton setigerus</i>	Turkey-mullein	N	--
Fabaceae	<i>Acmispon americanus</i> var. <i>americanus</i>	Deervetch	N	--
	<i>Acmispon micranthus</i>	Deervetch	N	--
	<i>Hoita macrostachya</i>	Leather root	N	--

TABLE C-1. PLANT SPECIES OBSERVED				
FAMILY	SCIENTIFIC NAME	COMMON NAME	N/I ¹	CAL-IPC PEST RATING ²
	<i>Melilotus</i> sp.	Sweetclover	I	--
	<i>Trifolium dubium</i>	Little hop clover	I	--
	<i>Trifolium hirtum</i>	Rose clover	I	--
	<i>Trifolium subterraneum</i>	Subterranean clover	I	--
	<i>Vicia sativa</i>	Vetch	I	--
	<i>Vicia villosa</i>	Hairy vetch, winter vetch	I	--
Fagaceae	<i>Notholithocarpus densiflorus</i>	Tan oak	N	--
	<i>Quercus kelloggii</i>	California black oak	N	--
	<i>Quercus lobata</i>	Valley oak	N	--
	<i>Quercus wislizeni</i>	Interior live oak	N	--
Geraniaceae	<i>Erodium cicutarium</i>	Redstem filaree	I	Limited
	<i>Geranium molle</i>	Cranesbill	I	--
Grossulariaceae	<i>Ribes</i> sp. (nodal spines present)	gooseberry	N	--
Hydrangeaceae	<i>Philadelphus lewisii</i>	Wild mock orange	N	--
Hypericaceae	<i>Hypericum perforatum</i> ssp. <i>perforatum</i>	Klamathweed	I	Moderate
Juglandaceae	<i>Juglans hindsii</i>	Northern California black walnut	N	--
Lamiaceae	<i>Mentha</i> sp.	Mint	--	--
	<i>Stachys</i> sp.	Hedge-nettle	N	--
	<i>Marrubium vulgare</i>	Horehound	I	Limited
Montiaceae	<i>Calandrinia ciliata</i>	Red maids	N	--
	<i>Claytonia parviflora</i>	Claytonia	N	--
	<i>Montia fontana</i>	Water chickweed	N	--
Myrsinaceae	<i>Anagallis arvensis</i>	Scarlet pimpernel	I	--
Oleaceae	<i>Fraxinus latifolia</i>	Oregon ash	N	--
Onagraceae	<i>Epilobium ciliatum</i>	Willowherb	N	--
	<i>Epilobium</i> sp.			--
Papaveraceae	<i>Eschscholzia caespitosa</i>	Eschscholzia	N	--
	<i>Eschscholzia lobbii</i>	Frying pans	N	--
Phrymaceae	<i>Mimulus guttatus</i>	Monkeyflower	N	--
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	I	Limited
	<i>Veronica peregrina</i> ssp. <i>xalapensis</i>	Purslane speedwell	N	--
	<i>Veronica persica</i>	Persian speedwell	I	--
Polemoniaceae	<i>Allophyllum divaricatum</i>	Allophyllum	N	--
	<i>Collomia heterophylla</i>	Variable-leaf collomia	N	--
	<i>Leptosiphon bicolor</i>	Leptosiphon	N	--
Polygonaceae	<i>Persicaria</i> sp.	Smartweed	--	--
	<i>Polygonum aviculare</i> ssp. <i>depressum</i>	Knotweed	I	--
	<i>Rumex acetosella</i>	Sheep sorrel	I	Moderate
	<i>Rumex conglomeratus</i>	Dock	I	--
	<i>Rumex crispus</i>	Curly dock	I	Limited
	<i>Rumex pulcher</i>	Fiddle dock	I	--
Ranunculaceae	<i>Ranunculus muricatus</i>	Buttercup	I	--
	<i>Clematis</i> sp.	Virgin's bower	N	--
Rosaceae	<i>Heteromeles arbutifolia</i>	Toyon	N	--

TABLE C-1. PLANT SPECIES OBSERVED				
FAMILY	SCIENTIFIC NAME	COMMON NAME	N/I ¹	CAL-IPC PEST RATING ²
Rubiaceae	<i>Rosa</i> sp.	Rose	--	--
	<i>Rubus armeniacus</i>	Himalayan blackberry	I	High
	<i>Galium aparine</i>	Goose grass	N	--
	<i>Galium divaricatum</i>	Lamarck's bedstraw	I	--
Salicaceae	<i>Galium parisiense</i>	Wall bedstraw	I	--
	<i>Salix laevigata</i>	Red willow	N	--
Sapindaceae	<i>Acer macrophyllum</i>	Big-leaf maple	N	--
	<i>Aesculus californica</i>	California buckeye	N	--
Saxifragaceae	<i>Darmera peltata</i>	Umbrella plant	N	--
Scrophulariaceae	<i>Verbascum blattaria</i>	Moth mullein	I	--
	<i>Verbascum thapsus</i>	Woolly mullein	I	Limited
Valerianaceae	<i>Valerianella locusta</i>	Corn salad	I	--
Zygophyllaceae	<i>Tribulus terrestris</i>	Puncture vine	I	--
MONOCOTS				
Cyperaceae	<i>Carex nudata</i>	Torrent sedge	N	--
	<i>Carex subfusca</i>	Pale broomsedge	N	--
	<i>Eleocharis macrostachya</i>	Spikerush	N	--
Iridaceae	<i>Iris</i> sp.	Iris	N	--
Juncaceae	<i>Juncus balticus</i> ssp. <i>ater</i>	Baltic rush	N	--
	<i>Juncus bufonius</i>	Toad rush	N	--
	<i>Juncus tenuis</i>	Slender rush	N	--
	<i>Luzula comosa</i> var. <i>laxa</i>	Hairy wood rush	N	--
Liliaceae	<i>Calochortus albus</i>	White globe lily	N	--
Poaceae	<i>Agrostis capillaris</i>	Colonial bent	I	--
	<i>Aira caryophyllea</i>	Silver hair grass	I	--
	<i>Avena barbata</i>	Slender wild oat	I	Moderate
	<i>Briza minor</i>	Small quaking grass	I	--
	<i>Bromus diandrus</i>	Ripgut grass	I	Moderate
	<i>Bromus hordeaceus</i>	Soft chess	I	Moderate
	<i>Bromus sterilis</i>	Poverty brome	I	--
	<i>Cynosurus echinatus</i>	Bristly dogtail grass	I	Moderate
	<i>Deschampsia elongata</i>	Slender hair grass	N	--
	<i>Elymus glaucus</i>	Blue or western wild-rye	N	--
	<i>Festuca arundinacea</i>	Tall fescue	I	Moderate
	<i>Festuca bromoides</i>	Brome fescue	I	--
	<i>Festuca myuros</i>	Rattail sixweeks grass	I	Moderate
	<i>Festuca perennis</i>	Rye grass	I	Moderate
	<i>Holcus</i> sp.	Velvet grass	I	--
	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Hare barley	I	Moderate
	<i>Paspalum dilatatum</i>	Dallis grass	I	--
	<i>Phalaris aquatica</i>	Harding grass	I	Moderate
	<i>Phalaris paradoxa</i>	Hood canary grass	I	--
	<i>Poa annua</i>	Annual blue grass	I	--
	<i>Poa bulbosa</i>	Blue grass	I	--
	<i>Poa trivialis</i>	Rough blue grass	I	--
Themidaceae	<i>Brodiaea elegans</i> ssp. <i>elegans</i>	Harvest brodiaea	N	--

¹ N = native, I = introduced.

² High/Moderate/Limited = CA-IPC Inventory; reflects level of each species' negative ecological impact in California.

TABLE C-2. WILDLIFE SPECIES OBSERVED	
SCIENTIFIC NAME	COMMON NAME
Fish	
<i>Minnows</i>	Fam. Cyprinidae
Amphibians	
<i>Anaxyrus boreas</i>	western toad (tadpoles)
<i>Pseudacris sierra</i>	Sierran chorus frog
Birds	
<i>Bubo virginianus</i>	great-horned owl
<i>Carduelis psaltria</i>	lesser goldfinch
<i>Carpodacus mexicanus</i>	housefinch
<i>Cathartes aura</i>	turkey vulture
<i>Pipilo maculatus</i>	spotted towhee
<i>Sayornis nigricans</i>	black phoebe
<i>Turdus migratorius</i>	robin
<i>Zenaida macroura</i>	mourning dove

Appendix D
CRLF Site Assessment

Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project

Federal Aid Number BRLO 5930(064)

California Red-Legged Frog Site Assessment

March 2016



Prepared for:

County of Calaveras

891 Mountain Ranch Road

San Andreas, CA 95249

Prepared by:

HELIX Environmental Planning, Inc.

11 Natoma Street, Suite 155

Folsom, CA 95630

**Whiskey Slide over Jesus Maria Creek Bridge Replacement Project
Federal Aid Number BRLO 5930(064)**

California Red-Legged Frog Site Assessment

Prepared for:

T.Y. Lin International
1601 Response Road, Suite 260
Sacramento, CA 95815

and

Calaveras County
Public Works Department
891 Mountain Ranch Road
San Andreas, CA 95249

Prepared by:

HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 155
Folsom, CA 95630

March 2016

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1.0 INTRODUCTION

On behalf of the County of Calaveras (County), HELIX Environmental Planning, Inc., (HELIX) has prepared this site assessment for California red-legged frog (*Rana aurora draytonii*; CRLF) for the Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project (project), located in Calaveras County, California. The site assessment was prepared in accordance with the U.S. Fish and Wildlife Service's (USFWS) *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (Revised Guidance; USFWS 2005). The purpose of this site assessment is to determine if the project site and surrounding areas could be utilized by the CRLF.

1.1 PROJECT LOCATION AND DESCRIPTION

The project is located in unincorporated, central Calaveras County. The town of Mountain Ranch is approximately 2.9 miles southeast of the project site, and California State Route (SR) 49 is approximately 7.3 miles to the west. The project site is located in Section 30 of Township 5 North and Range 13 East of the U.S. Geological Survey (USGS) 7.5-minute "Rail Road Flat" quadrangle map (Figure 1).

The County is planning to replace the existing bridge at Whiskey Slide Road over Jesus Maria Creek (bridge number 30C0062), located 2.7 miles southeast of Jesus Maria Road. The most recent Caltrans bridge inspection report identified the bridge as structurally deficient with a sufficiency rating of less than 50. The federal highway bridge program guidelines provide funding for bridges with a sufficiency rating of less than 80 which are either structurally deficient or functionally obsolete. Bridges that are below 80 qualify for rehabilitation and bridges that are below 50 qualify for replacement or rehabilitation. The purpose of the project is to bring the bridge up to current geometric and structural standards, and provide residents, motorists, pedestrians, and emergency vehicles a safe, all-weather path of travel across Jesus Maria Creek.

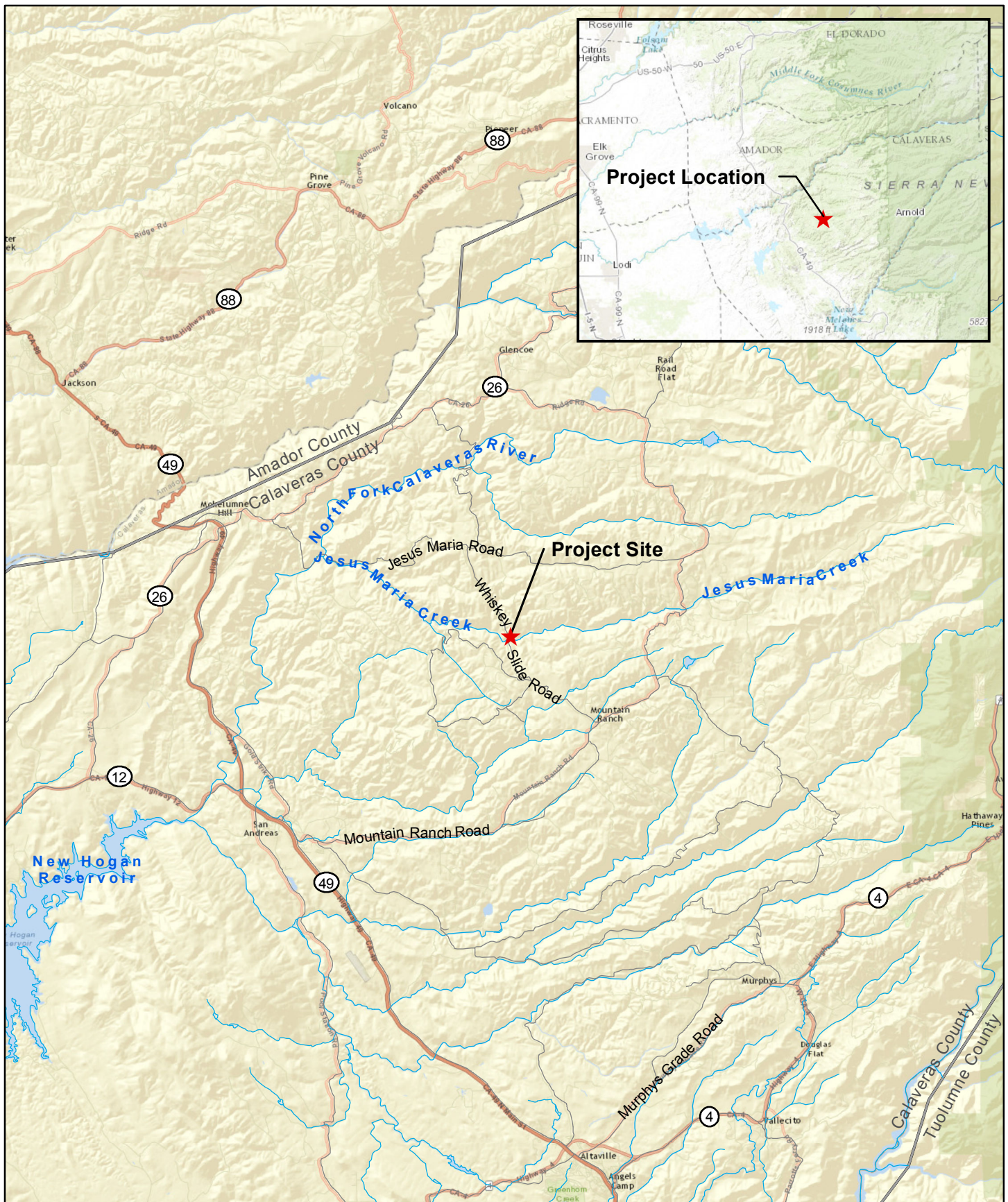
The proposed project would involve constructing an approximately 60-foot long, 23.5-foot-wide cast in place concrete, precast concrete, or steel girder, single-span bridge. The bridge would feature one 9-foot-wide travel lane, a 1-foot-wide shoulder, and a traffic barrier in each direction. The new profile would be approximately 9 feet higher than existing to increase hydraulic clearance over the creek. Reinforced concrete, seat-type abutments founded on spread footings would be constructed in each foot bank. Exposed embankment slopes near the creek would be protected by rock armoring (rip-rap) or other slope protection. The new bridge would cross Jesus Maria Creek approximately 30 feet west of the existing alignment. Whiskey Slide Road would be raised, widened, and realigned along the bridge approaches to accommodate the new bridge. The approaches would generally feature 9-foot-wide lanes with 1-foot-wide shoulders in each direction. At the curves, the interior lane would be 9 feet wide, with a 4-foot-wide shoulder. Approximately 0.2 acre of new right-of-way (ROW) acquisition is anticipated to accommodate the replaced bridge and its approaches. The project study area is approximately 3.91 acres, with ground disturbance over the entire area anticipated. Figure 2 depicts the proposed project features.

1.2 CALIFORNIA RED-LEGGED FROG BACKGROUND

The federally-listed as threatened CRLF is one of two subspecies of red-legged frog. Its range extends from Baja California, Mexico, north to the vicinity of Redding inland, and at least to Point Reyes, California coastally (Jennings and Hayes 1994). The other subspecies is northern red-legged frog (*Rana aurora aurora*), which is a California species of special concern. Its range is located north of the CRLF range in northern California and is largely geographically isolated from CRLF. Records of the CRLF are known from Riverside County to Mendocino County along the Coast Range; from Calaveras County to Butte County in the Sierra Nevada; and in Baja California, Mexico. The CRLF are still locally abundant within portions of the San Francisco Bay area (including Marin County) and the central coast. Within the remaining geographic distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse ranges (USFWS 2010).

In a recent comprehensive review of all known museum specimens of CRLF, a total of 60 specimens of CRLF were found from the Sierra Nevada and Southern Cascades, all collected between 1916 and 1975 (Berry and Fellers 2013). These 60 specimens represent a total of 21 localities where CRLF have been documented historically in the Sierra Nevada. In contrast, over 1,200 CRLF museum specimens from 420 localities in coastal California (including Baja California) were documented during the same 60-year period (Berry and Fellers 2013) indicating that this species is much more abundant along the California coast than it is in the Sierra Nevada. Berry and Fellers (2013) found no museum specimens of CRLF from Calaveras County. Only one of the historical localities of CRLF is known to be extant, a population near Michigan Bluff in Placer County (Berry and Fellers 2013). However, a total of 10 Sierra Nevada occurrences of CRLF have been discovered since 1991 extending from east central Butte County to Mariposa County; these occurrences include seven populations of CRLF (including the historical population of CRLF near Michigan Bluff) and three single-specimen occurrences. One of these recent occurrences of CRLF is in Calaveras County near Young's Creek (Berry and Fellers 2013).

The CRLF occurs from sea level to elevations of 5,200 feet and occupies a fairly distinct habitat that combines both specific aquatic and riparian components. Suitable aquatic habitat consists of low-gradient freshwater bodies, including ponds, marshes, sag ponds, dune ponds, stock ponds, lagoons, seeps, springs, and backwaters within streams and creeks. While CRLF can occur in either ephemeral or perennial streams or ponds, populations generally cannot be maintained in ephemeral streams in which surface water disappears before metamorphosis (July to September) during most years. Studies have indicated that this species cannot inhabit water bodies that exceed 70 degrees Fahrenheit, especially if there are no cool, deep portions (USFWS 2002). The adults require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2.3 feet deep) still or slow moving water, but frogs have been observed in shallow sections of streams and ponds that are devoid of vegetative cover. In the Sierra Nevada, CRLF primarily occur between 500 and 3,600 feet in elevation. While much of the aquatic habitat in this elevation band could support CRLF, the most likely breeding habitat for CRLF in the Sierra Nevada includes large stream pools and old man-made ponds, small in-stream impoundments, and pre-1940 lumber mill ponds (Barry and Fellers 2013). Although this species has a wide



Map Date: March 2016

Source: World Street/World Topo Maps
 USGS 7.5' Quadrangles: Rail Road Flat, CA
 7.5 minute topographic quadrangle
 Section: 30
 Township: 05N
 Range: 13E

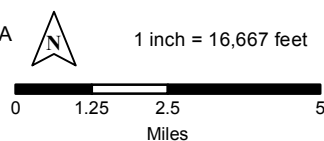
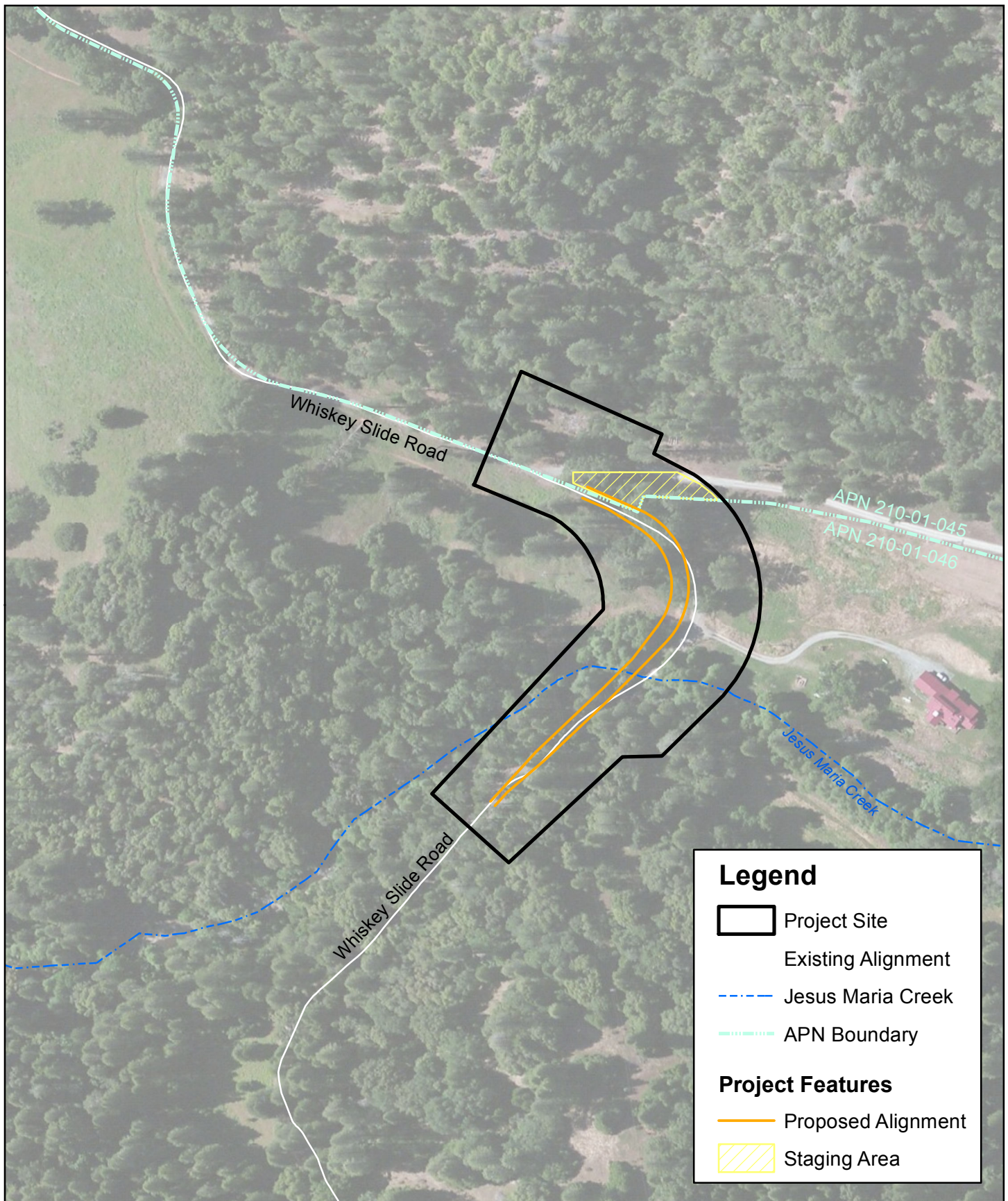


Figure 1- Regional Location Map

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
 (30C0062) BRIDGE REPLACEMENT PROJECT
 Calaveras County, CA

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Map Date: March 2016
 Source: ESRI World Imagery (6/24/2014)
 TY Lin CAD Data (9/25/15)
 USGS 7.5' Quadrangles: Rail Road Flat, CA
 7.5 minute topographic quadrangle
 Section: 30
 Township: 05N
 Range: 13E



1 inch = 200 feet



Figure 2 - Project Features

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
 (30C0062) BRIDGE REPLACEMENT PROJECT
 Calaveras County, CA

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distribution in the Sierra Nevada, individual populations in the Sierra Nevada are scarce, often small and can fluctuate significantly in little time (Barry and Fellers 2013).

The largest populations of CRLF are associated with deep-water pools with dense stands of overhanging willows (*Salix* sp.) and an intermixed fringe of cattails (*Typha latifolia*). Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. The species is also known to utilize well-vegetated riparian zones for foraging habitat and to facilitate dispersal. During summer, CRLF often disperse from their breeding habitat to forage and seek summer habitat if water is not available (USFWS 2002). This habitat may include shelter under boulders, rocks, logs, industrial debris, agricultural drains, water troughs, small mammal burrows, incised streambed channels, or areas with moist leaf litter (Jennings and Hayes 1994; USFWS 2002). The CRLF may use these upland habitats up to approximately 200 feet from suitable aquatic habitat (USFWS 2002, 2010). The CRLF have also been found up to 100 feet from water in adjacent dense riparian vegetation.

CRLF typically breed along the margins and shallow parts of sunlit pools, which can be natural or manmade ponds, wide slow sections of streams, or even small, spring-fed puddles, typically without centrarchid fish (Hayes and Jennings 1988 in Berry and Fellers 2013). Breeding typically starts in November and continues into April (USFWS 2002). The CRLF typically lay eggs that are attached to vegetation in shallow water between December and early April. Larvae metamorphose in 3.5 to 7 months, typically between July and September. Breeding ponds must retain water until this time. The CRLF may remain active throughout the year along the coast, whereas in drier inland areas they aestivate in upland habitat from late summer to early winter (USFWS 2002, 2010).

The decline of the red-legged frog is attributable to a variety of factors. Large-scale commercial harvesting of red-legged frogs led to severe depletions of populations at the turn of the century (Jennings and Hayes 1985). Subsequently, exotic aquatic predators such as bullfrogs (*Rana catesbeiana*), crayfish (*Procambarus clarki*), and various species of fish became established and contributed to the continued decline of the species (Hayes and Jennings 1986). Habitat alterations such as conversion of land to agricultural and commercial uses, reservoir construction, off-road vehicle use, and abusive land-use practices (i.e., livestock grazing) threaten the remaining populations (Bohn and Buckhouse 1986; Jennings and Hayes 1994; Kauffman et al. 1983; Kauffman and Krueger 1984).

1.3 REGULATORY SETTING

The CRLF was listed as a threatened species under the federal Endangered Species Act by the USFWS on May 23, 1996 (Federal Register 61:25813). Critical habitat, which is defined as “a specific area needed by an endangered or threatened animal or plant in order for it to survive, not go extinct, and recover to a healthy population” was originally designated for CRLF on April 13, 2006 (Federal Register 71:19243). An increase in critical habitat for the CRLF was proposed by the USFWS in a news release on September 16, 2008 and an update to critical habitat for the CRLF was designated on March 17, 2010 (Federal Register 75:12815). The USFWS requires that protocol level surveys for the CRLF be conducted if the CRLF has the potential to occur in

the vicinity of a proposed project location or if the project is located within designated critical habitat.

In August 2005, the USFWS published the Revised Guidance (USFWS 2005), which details procedures for determining the necessity of field surveys and conduction of field surveys. This site assessment was written and conducted in accordance with these guidelines and fulfills part one of the protocol survey requirement, which is an assessment of on-site habitats and off-site habitats within a one-mile radius that could be suitable for CRLF.

2.0 ENVIRONMENTAL SETTING

Calaveras County is located in central California along the western slope of the Sierra Nevada mountain range. The County's boundaries are the Mokelumne River on the north and the Stanislaus River on the south. The County's eastern boundary abuts Alpine County and the western boundary adjoins San Joaquin and Stanislaus counties. The western part of Calaveras County is characterized by rolling foothills beginning at an elevation of approximately 300 feet. The terrain rises to the east, reaching a peak height of 8,170 feet near the Alpine County boundary. Deep ravines and steep ridges are found between the foothills and the higher mountains. Calaveras County's climate lies in a transitional zone between the Sierra Nevada and the San Joaquin Valley. Climate varies significantly due to great differences in elevation. Precipitation varies from 20 to 60 inches a year, where much of it is in the form of snow in the higher elevations.

The project site is located in a rural area of Calaveras County. Land use in the vicinity of the project site is undeveloped forested land and residential parcels with cleared pastures. Through the project site, Whiskey Slide Road is paved and narrow. The bridge over Jesus Maria Creek is a one lane, paved bridge.

Jesus Maria Creek is a tributary to the north fork of the Calaveras River, and generally flows from east to west. Through the project site, Jesus Maria Creek flows from the southeast to the northwest under Whiskey Slide Road, where it curves southward and flows to the southwest. The topography in the project site and surrounding area varies widely – the south bank of Jesus Maria Creek east of Whiskey Slide Road is generally steep with slopes greater than 60 degrees. West of Whiskey Slide Road, the bank above the creek is generally flat. The north bank is generally broad and flat, with undulating topography upland from the creek. The grades north of the creek range from approximately 2 to 30 degrees. Elevations in the project site range from approximately 1,695 feet above mean sea level (amsl) to 1,775 feet amsl (516.6 – 541.02 meters amsl), with elevations increasing to the north, south, and east.

3.0 METHODOLOGY

The methods used for this CRLF site assessment are based on the USFWS Revised Guidance (USFWS 2005). The site assessment included a review of available resources to provide an overview of the upland and aquatic habitats present within the project site and immediate

vicinity. The California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB; CDFW 2014a, 2015) and the *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)*; USFWS 2002) were reviewed for information regarding known existing and historic populations of CRLF in the project region. A listing of other information sources reviewed prior to conducting the field assessment is provided below:

- USGS “Rail Road Flat, California” 7.5 minute topographic quadrangle map;
- Aerial photography of the property and vicinity;
- National Wetland Inventory (NWI) map for the project site and vicinity from the Wetlands Online Mapper (USFWS 2014);
- CNDDB (CDFW 2014a, 2015) reported occurrence of special-status species within a 5 mile radius of the project area; and
- USFWS online species information for CRLF (USFWS 2010).

Three criteria were used to assess the likelihood of CRLF presence in or within the vicinity of the project site: (1) the location of the project site with respect to the current and historic range of CRLF, (2) the presence/absence of known records of CRLF within a one-mile radius of the project site, and (3) the habitat types occurring within the project site and within a one-mile radius.

Fieldwork for the site assessment was conducted on November 16, 2014 by HELIX biologists, Stephen Stringer, M.S. and Catherine Silvester. All on- and off-site aquatic habitats were identified prior to the site visit using aerial photography, NWI data, and the USGS topographic quadrangle map for the project site and vicinity. The surveyors attempted to access all aquatic habitats within the one-mile radius and all publicly accessible aquatic habitats were surveyed. The habitat suitability of all aquatic features and their associated terrestrial habitats were assessed for potential to support CRLF. Aquatic habitats within one-mile of the project site that were not publicly accessible were characterized as thoroughly as possible by roadside observations, observations from adjacent accessible properties, and aerial photos. Site assessment photos are included in Appendix A. Data sheets were filled out for each aquatic habitat that was publicly accessible in accordance with Appendix D of the USFWS Revised Guidance (USFWS 2005) and are provided in Appendix B. Preparer qualifications are included as Appendix C.

Following the November 16, 2014 site assessment, the project limits were expanded as a result of subsequent engineering studies. As a result, the footprint also extends approximately 55 feet downstream from the previous project limit. The extents are within the area previously evaluated during the November 2014 site assessment, so no additional evaluation based on the footprint expansion is required. The project site was visited again on November 11, 2015 by Catherine Silvester, following the Butte Fire that burned the area during the summer of 2015. While upland habitats south of the bridge were substantially burned, the riparian habitat was not significantly altered. The fire did not affect the habitats in the creek in such a way that would render the data collected in 2014 unsuitable for the habitat assessment. As a result, the description of the habitats present and the analysis contained in this document is based on data collected during the November 2014 site assessment. The habitat mapping was extended to the extent of the new project limits, based on the habitats that would have occurred prior to the fire.

The CRLF habitat was assessed based on breeding and dispersal habitat as described in the USFWS Revised Guidance (USFWS 2005). Habitats were determined to meet the criteria for suitable CRLF breeding habitat if they appeared to contain water through the summer months, were at least 2 1/3 feet deep, had still or slow moving water, and had some degree of emergent vegetation.

4.0 SITE ASSESSMENT RESULTS

4.1 CURRENT AND HISTORIC RANGE OF CRLF IN RELATION TO THE PROJECT

4.1.1 Current Range of CRLF in Relation to the Project Site

Literature sources that were consulted to determine any known occurrences of CRLF in the project site or vicinity include a recent comprehensive study on the history and status of CRLF in the Sierra Nevada (Berry and Fellers 2013) and the CNDDDB.

There are no documented occurrences of CRLF in the project region in Berry and Fellers (2013), which reports only one documented occurrence of this species in Calaveras County along Young's Creek (Berry and Fellers 2013). There are also no reported occurrences of CRLF in the project site or within a 10-mile radius of the site in the CNDDDB. The closest reported occurrence of CRLF to the project site in the CNDDDB is from 2003 (corresponds with the only reported occurrence of CRLF in Calaveras County in Berry and Fellers 2013) where this species was documented 11 miles west of the site along Young's Creek (CDFW 2014a, 2015). The database information for this reported occurrence indicates that three adult CRLF were observed on October 21, 2003 approximately 0.9 mile upstream from the creek's confluence with Spring Valley Creek, and 2.5 miles southeast of Pardee Reservoir. The habitat surrounding the creek consists of riparian and grazed oak savannah, with a channel substrate consisting of coarse sediment, sand, and silt. The CNDDDB reports that there is a threat to this population of CRLF from proposed infrastructure improvements and urbanization.

HELIX contacted Melinda Benton, Stanislaus National Forest Calaveras District Wildlife Biologist, to determine if the Forest Service had any additional information regarding CRLF in the region (pers. communication, 10/13/2015). Ms. Benton indicated the only information she had was that the species was known in San Domingo Creek below the National Forest boundary. The record was about 10 years ago, and there haven't been more recent observations of the species in the area since. She had no record of them occurring in the Calaveras District. San Domingo Creek is approximately 8.3 miles southeast of the project site. Both creeks are in the Upper Calaveras River watershed. At the suggestion of the Forest Aquatic Biologist, Steven Holdeman (e-mail dated October 9, 2015), HELIX used VertNet to search for CRLF records in the County with no records found in the database (National Science Foundation 2015).

Relatively recent discoveries of CRLF in the Sierra Nevada documented by Berry and Feller (2013) indicate that small unidentified populations of this species likely occur sporadically throughout the Sierra Nevada from elevations of approximately 500 to 3,600 feet. Because this species is secretive, scarce, and cryptic, and populations are often very small, discovery of Sierra Nevada CRLF populations is largely a matter of chance (Berry and Feller 2013) and it is likely

that undiscovered populations occur on private and public land throughout suitable habitat in the Sierra Nevada.

4.1.2 Historic Range of CRLF in Relation to the Project Site

The project site is within the historic range of the CRLF according to California's Wildlife Volume 1, Amphibians and Reptiles (Zeiner et al. 1988) and according to the *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* (USFWS 2002). The recovery plan designated eight Recovery Units within California. Within these Recovery Units, specific Core Units are identified for focused recovery efforts. The project site located within Core Unit 5: South Fork Calaveras River, which is within the Upper Calaveras watershed. However, the frog is believed to be extirpated from this Core Unit (USFWS 2002). The project site does not occur within critical habitat for the CRLF. The closest critical habitat to the project site is located west of Calaveras County (CAL-1), west of SR 49 and north of SR 12, approximately 10.4 miles west of the project site.

4.2 ASSESSMENT OF CRLF RECORDS WITHIN ONE MILE OF THE PROJECT SITE

As stated above, there are no documented occurrences of CRLF in the CNDDDB within 10 miles of the project site.

4.3 HABITAT TYPES OCCURRING IN THE PROJECT SITE AND WITHIN A ONE-MILE RADIUS

Habitat types occurring in the project site and within a one-mile radius include mixed conifer forest (*Pinus ponderosa* – *Calocedrus decurrens* Forest Alliance), white alder riparian forest (*Alnus rhombifolia* Forest Alliance), riverine, and annual brome grassland (*Bromus [diandrus, hordeaceus]* – *Brachypodium distachyon* Semi-Natural Herbaceous Stands). Habitat nomenclature generally follows *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009), CDFW's California Wildlife Habitat Relationships classification scheme (CDFW 2014b), and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). Figure 3 depicts the habitat types in the project site and includes the location and direction of photographs taken within the project site.

4.3.1 Upland Habitat

CRLF sometimes make overland excursions through upland habitats during periods of wet weather (USFWS 2002). CRLF are also known to wander throughout riparian woodlands (USFWS 2005). Upland habitat types occurring in the project site and within a one-mile radius are mixed conifer forest, white alder riparian forest, and annual brome grassland. These habitat types are discussed below.

Mixed Conifer Forest (*Pinus ponderosa*–*Calocedrus decurrens* Forest Alliance)

This habitat type occurs in the upper elevation portions of the project site away from Jesus Maria Creek. The tree canopy of this community is dominated by ponderosa pine (*Pinus ponderosa*) and incense cedar (*Calocedrus decurrens*). Oaks (*Quercus* sp.) are also commonly present in the tree canopy. The shrub layer is patchy and where present is dominated by western poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus armeniacus*), and snowberry (*Symphoricarpos* sp.). The herb layer is very sparse where the shrub layer is present. Where the shrub layer is absent, the herb layer is similar to the annual brome grassland.

White Alder Riparian Forest (*Alnus rhombifolia* Forest Alliance)

In the project site and vicinity, this riparian forest occurs in a relatively narrow band along Jesus Maria Creek. The tree canopy is dominated by white alder (*A. rhombifolia*) with lesser amounts of red willow (*Salix laevigata*). The shrub layer is patchy and where present is dominated by Himalayan blackberry and virgin's bower (*Clematis* sp.). The herb layer is very sparse where the shrub layer is present. Where the shrub layer is absent, the herb layer is dominated by Philadelphia fleabane (*Erigeron philadelphicus* var. *philadelphicus*), speedwell (*Veronica* sp.), dock (*Rumex* sp.), and rush (*Juncus* sp.). Downed logs and organic material are abundant on the forest floor in the project site and vicinity.

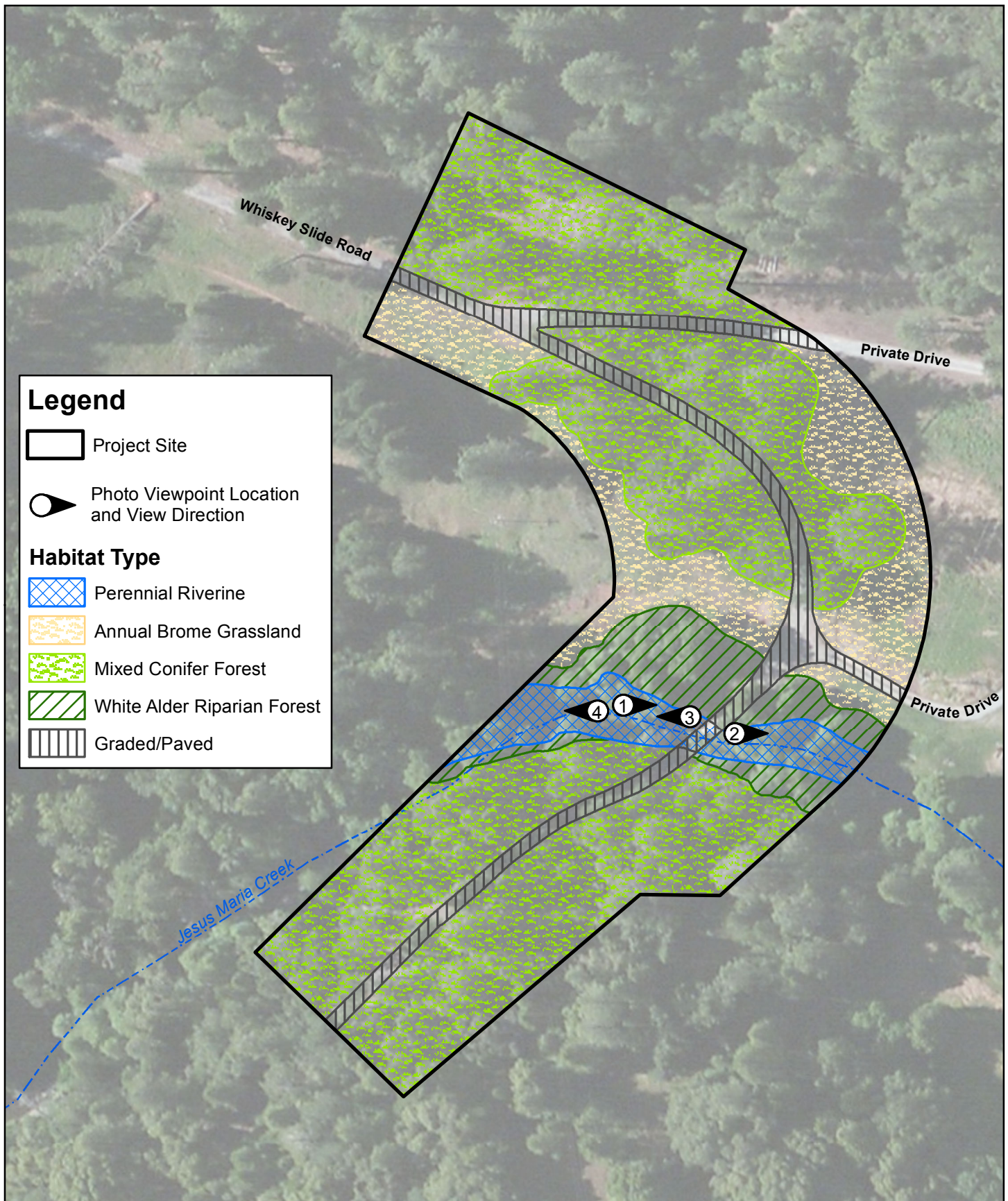
Annual Brome Grassland (*Bromus [diandrus, hordeaceus]*–*Brachypodium distachyon* Semi-Natural Herbaceous Stands)

In the project site, this habitat type primarily occurs in areas disturbed by previous vegetation clearing and/or grazing. This herbaceous community is dominated by non-native annual grasses and forbs including soft chess (*B. hordeaceus*), ripgut grass (*B. diandrus*), bristly dogtail grass (*Cynosurus echinatus*), vetch (*Vicia* sp.), and clover (*Trifolium* sp.). Native grasses and forbs occur but do not dominate the community. Trees and shrubs are mostly absent from this community.

4.3.2 Aquatic Habitat

Aquatic habitats can be used by CRLF for breeding, refugia, or dispersal corridors between other suitable habitats. Aquatic habitat types occurring in the project site and within a one-mile radius consist primarily of riverine habitats including Jesus Maria Creek, Spring Gulch, Mexican Gulch and un-named intermittent drainages. Three small wetland features mapped by the NWI occur within one mile of the project site; these wetland features appear to be artificial on-stream impoundments. Figure 4, the *Habitat Assessment Map*, depicts the documented aquatic habitats within a one-mile radius of the project site.

All of the aquatic habitats within a one-mile radius of the project site that were accessible or visible from public roadways were visited during the site assessment fieldwork to document the existing conditions. The publicly accessible aquatic sites are labeled consecutively (on Figure 4) from one to five in the order they were visited during the site assessment fieldwork. Photographs (Appendix A) were taken and habitat assessment data sheets (Appendix B) were filled out for

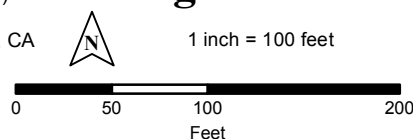


Map Date: March 2016
 Source: ESRI World Imagery (6/24/2014)
 TY Lin CAD Data (9/25/15)
 USGS 7.5' Quadrangles: Rail Road Flat, CA
 7.5 minute topographic quadrangle
 Section: 30
 Township: 05N
 Range: 13E

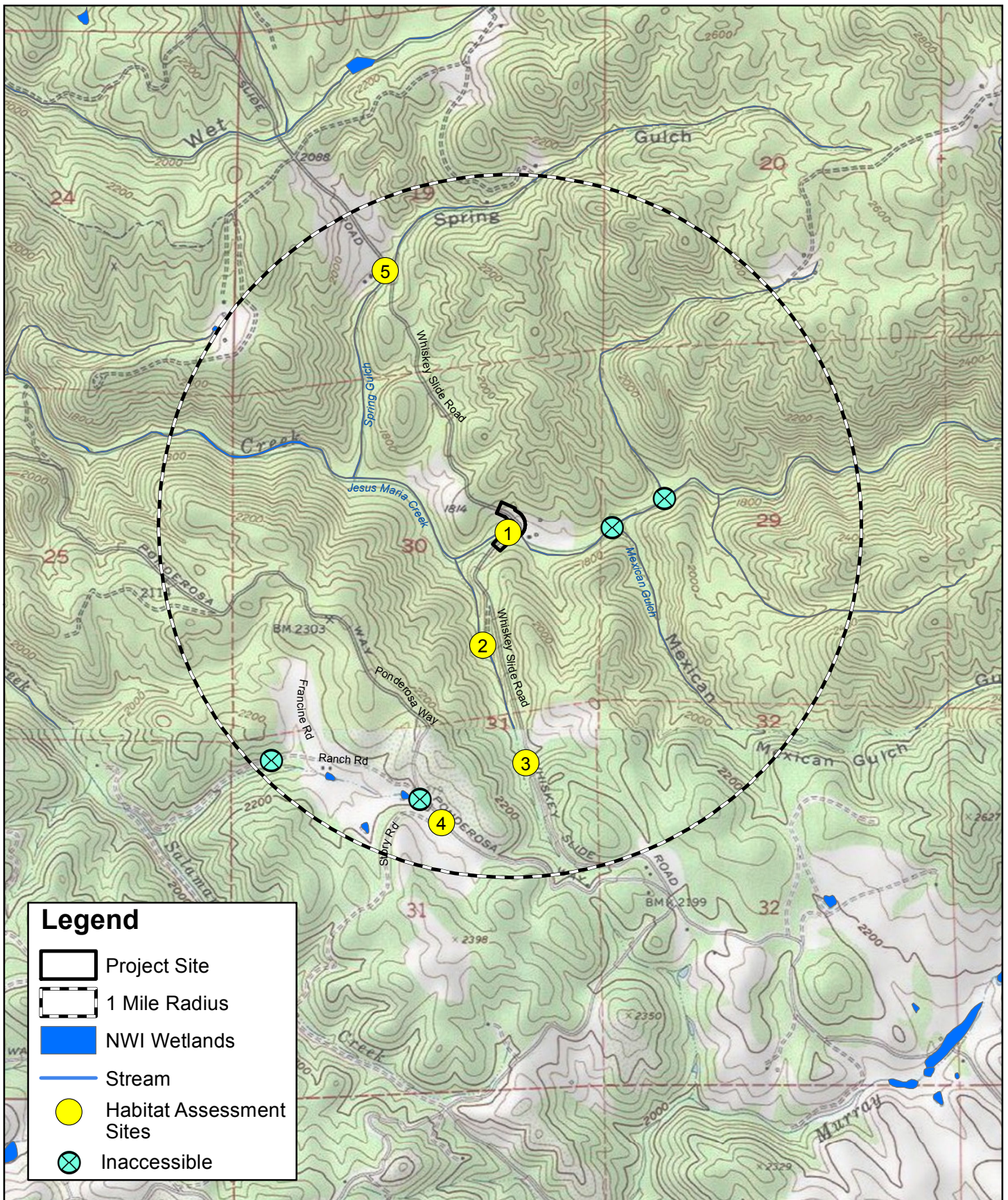
Figure 3 - Habitat Types and Photo Locations

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
 (30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA



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Map Date: March 2016
 Source: USA Topo Maps;
 USFWS National Wetland Inventory
 USGS 7.5' Quadrangles: Devil's Nose, CA
 7.5 minute topographic quadrangle
 Section: 34
 Township: 07N
 Range: 14E

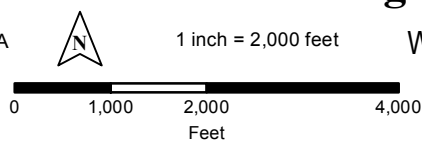


Figure 4 - Habitat Assessment Map

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
 (30C0062) BRIDGE REPLACEMENT PROJECT
 Calaveras County, CA

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each of the publicly accessible aquatic sites within a one-mile radius of the project site. Each publicly accessible aquatic site is discussed separately in the following paragraphs. Inaccessible aquatic habitats within a one-mile radius of the project site are noted on Figure 4 as inaccessible and are discussed collectively following the discussion of publicly accessible sites.

Habitat Assessment Site 1 (Project Site)

Within the project site, Jesus Maria Creek is a perennial stream with a cobble, boulder, and bedrock bottom with some coarse sand and gravel substrate. It originates approximately 10.5 miles east of the project site. In the project site and immediate vicinity, the creek is characterized by large in-stream pools separated by shorter riffle and/or run areas and contains minimal emergent vegetation. It has a gradient of 2 to 3 percent, is approximately 50 feet wide at bank full width, and is approximately 1 to 3 feet deep at bank full depth. The pools are located in-stream within the boulders and bedrock formations.

Bedrock formations around the Whiskey Slide Road Bridge contain pools approximately 20 to 30 feet wide, with a maximum depth of 2 to 3 feet. These pools contain bedrock and cobble substrate, and lack emergent vegetation. No backwater areas or off-stream pools were observed in Jesus Maria Creek in the project site or surrounding area. Refer to photos 1 through 4 in Appendix A.

Non-pool habitat includes low gradient riffles (approximately 0.5 to 1 foot deep) and runs that average approximately 1 to 2 feet in depth. The riffles are characterized by relatively shallow water flowing over cobbles, and exposed boulders and bedrock substrate, and the runs are characterized by coarse sand, gravel, cobble, and bedrock substrate. A few individual specimens of umbrella plant (*Darmera peltata*) were observed in the stream during a site visit on May 23, 2013. No in-stream or emergent vegetation was observed during the site assessment fieldwork on November 16, 2014.

Jesus Maria Creek is lined by stands of white alder (*Alnus rhombifolia*) and Oregon ash (*Fraxinus latifolia*) trees and saplings. It features natural soil banks well vegetated with sedges (*Cyperus* sp.), ferns, and grasses, and Himalayan blackberry (*Rubus armeniacus*), which overhung some portions of the creek. The stream banks were abundant with leaf litter, downed trees, and logs. The southern bank was shallowly undercut with exposed roots. Chorus frog vocalizations were heard, but none were observed.

As previously mentioned, the segment of Jesus Maria Creek in the project site and immediate vicinity contains in-stream pools. While in-stream pools do not typically support breeding habitat for CRLF, small but apparently stable populations of CRLF have been found in in-stream pools approximately 1.6 feet in depth in the Sierra Nevada (Little Oregon Creek, Yuba County) (Berry and Fellars 2013). The pools in the project site are unlikely to provide breeding habitat for CRLF because while they are of suitable depth to meet the breeding habitat requirements for CRLF, they are heavily shaded and lack vegetation and other substrate typically required by CRLF for egg attachment. Additionally, the pools are subject to swift flows which would further preclude the site as potential breeding habitat.

While the project site does not provide suitable breeding habitat for the species, Jesus Maria Creek may contain suitable breeding habitat elsewhere along its length. The project site could provide dispersal habitat for CRLF if breeding populations were present in the vicinity (including along Jesus Maria Creek or other waterbodies in the vicinity).

Habitat Assessment Site 2

Site 2 occurs along an intermittent tributary to Jesus Maria Creek that originates approximately 0.9 mile south of the project site. The drainage generally follows the west side of Whiskey Slide Road, flowing northwest, where it meets Jesus Maria Creek approximately 0.2 mile west of the project site. Habitat assessment data were recorded from a dirt road accessing the drainage from Whiskey Slide Road. Refer to photo 5 in Appendix A.

Where surveyed, the drainage has a gradient that ranges from approximately 2 to 5 percent, and is approximately 10 feet wide from top-of-bank to top-of-bank. The maximum depth of the drainage is approximately 1.5 to 2 feet deep at bank full width. At the time of the site assessment on November 16, 2014, no water was present in the drainage.

The drainage is characterized by steep, incised, soil banks (nearly vertical in many locations) with some erosion and exposed roots, and the channel bottom is comprised of soil and small boulders. No potential pools were observed along the drainage. Leaf litter and woody debris of decomposing branches and bark were prolific in the channel and adjacent uplands. The channel was mostly un-vegetated, with ferns and blackberry lining the banks. The overstory was comprised of Douglas fir (*Pseudotsuga menziesii*), big leaf maple (*Acer macrophyllum*), and incense cedar (*Calocedrus decurrens*). The drainage does not contain emergent vegetation typically required by CRLF for egg attachment. The drainage is not expected to be inundated for the depth or duration to provide breeding habitat for CRLF, nor were any suitable breeding pools observed.

In the location of Site 2, the intermittent drainage is unlikely to contain any pools of suitable depth to provide potential breeding habitat for CRLF due to the intermittent nature of the drainage. Based on the observed conditions of the drainage at Site 2, the length and gradient of the drainage as shown on USGS topographic maps, and its intermittent nature, this drainage is unlikely to support breeding CRLF, but could provide dispersal habitat for CRLF if breeding populations were present in the vicinity.

Habitat Assessment Site 3

Site 3 occurs along an ephemeral drainage that crosses under Whiskey Slide Road approximately 0.7 mile south of the project site. The drainage flows from the southeast to the northwest where it enters the drainage described above in Site 2. Habitat assessment data were recorded from Whiskey Slide Road. Refer to photos 6 through 8 in Appendix A. Based on the topography of the area, the drainage likely originates north of the intersection of Whiskey Slide Road with Ponderosa Way, and follows the natural topography of the area to cross under Whiskey Slide Road.

The drainage has a gradient of 2 to 5 percent, and is approximately 2 feet wide from top of bank to top of bank. The maximum depth of the drainage is approximately 2 feet deep at bank full width. The drainage crosses under Whiskey Slide Road in a pipe culvert. Stormwater flows have carved out an approximately 2-foot-diameter pool at the culvert inlet, characterized by soil and cobble substrate. At the outlet, flows are directed to a steep gully, with a several foot drop from the culvert outlet to the channel below. At the time of the site assessment, water was present in the pool (less than 6 inches deep) and was trickling from the culvert outlet. The drainage was not associated with a riparian corridor. The water that was present was likely the result of recent storm events in the area.

At the location of Site 3, the channel was characterized by steep, incised, soil banks, with eroded sides and exposed roots. The channel bottom was soil and cobble, with no vegetation growing along the channel bottom. Ferns, blackberry, moss, and honeysuckle (*Lonicera* sp.) were growing along the channel banks and overhanging the channel. Leaf litter and woody debris of decomposing branches and bark were prolific in the channel and adjacent uplands. The overstory was comprised of Pacific madrone (*Arbutus menziesii*), incense cedar, and oaks. The drainage does not contain emergent vegetation typically required by CRLF for egg attachment. The drainage is not expected to be inundated for the depth or duration to provide breeding habitat for CRLF, nor were any suitable breeding pools observed.

In the location of Site 3, the ephemeral drainage is unlikely to contain any pools of suitable depth to provide potential breeding habitat for CRLF due to the steep topography and ephemeral nature of the drainage. Based on the observed conditions of the drainage at Site 3, the length and gradient of the drainage as shown on USGS topographic maps, and its ephemeral nature, this drainage is unlikely to support breeding CRLF but could provide dispersal habitat for CRLF if breeding populations were present in the vicinity.

Habitat Assessment Site 4

Site 4 occurs along a small ephemeral roadside drainage swale along the west side of Ponderosa Way between Ranch Road and Story Road. Habitat assessment data were recorded from the shoulder of Ponderosa Way. Based on the USGS topographic map it appears that a tributary to Salamander Creek originates at this point. There may be some surface flow connection to a channel further northwest of Site 4 as shown on the USGS topographic map, but areas to the north were on private property and inaccessible to surveyors for any field verification. Refer to photos 9 and 10 in Appendix A.

The drainage at Site 4 was located within a relatively thickly vegetated corridor, so only an approximately 20- to 25-foot-long section was visible. The drainage has a gradient of approximately 2 percent, and is approximately 1 to 2 feet wide from top-of-bank to top-of-bank. The maximum depth of the channel is approximately 1 foot deep at bank full width. At the time of the site assessment on November 16, 2014, no water was present in the drainage and primarily upland plant species were visible along the banks. The channel appeared to dissipate further downstream, as it approached developed areas of the properties.

The channel was characterized by steep, incised soil banks with undercut and eroded sides, and some exposed roots. The channel bottom was soil, with no vegetation growing along the channel bottom. Blackberry was prolific along the banks and overhanging the channel. Leaf litter and woody debris of decomposing branches and bark were prolific in the channel and adjacent uplands. The overstory was comprised of oaks, Pacific madrone, and incense cedar. Chorus frog vocalizations were heard, but none were observed.

The drainage at Site 4 appears to be a relatively short roadside drainage swale lacking direct surface connectivity to other water bodies (other than sheet flow). It likely collects surface runoff, and is inundated for short duration during and immediately following storm events. The drainage does not contain emergent vegetation typically required by CRLF for egg attachment. The drainage is not expected to be inundated for the depth or duration to provide breeding habitat for CRLF, nor were any suitable breeding pools observed.

The ephemeral drainage at Site 4 is unlikely to contain any pools that would be inundated to a suitable depth for a sufficient duration to provide potential breeding habitat for CRLF due to the ephemeral nature of the drainage. Based on the observed conditions of the drainage at Site 4, the short length of the drainage as shown on USGS topographic maps, and its ephemeral nature, this drainage is unlikely to support breeding CRLF but could provide dispersal habitat for CRLF if breeding populations were present in the vicinity.

Habitat Assessment Site 5

Site 5 occurs along Spring Gulch, which is depicted on the USGS quad map as a perennial tributary to Jesus Maria Creek. Spring Gulch originates approximately 1.4 miles northeast of the project site, east of Spring Gulch Road, and flows southwest to Jesus Maria Creek approximately 0.5 mile west of the project site. The creek flows under Whiskey Slide Road approximately 0.9 mile north of the project site. Habitat assessment data were taken from Whiskey Slide Road. Refer to photos 11 and 12 in Appendix A.

The drainage has a gradient of 2 to 3 percent, and is approximately 3 feet wide from top-of-bank to top-of-bank. The maximum depth of the drainage is approximately 2 to 3 feet deep at bank full width. The drainage crosses under Whiskey Slide Road in a pipe culvert. A large basin is located at the culvert outfall on the downstream side of Whiskey Slide Road. At bank full width, the basin below the culvert outfall may pond to approximately 20 feet in diameter, and may reach 10 feet in depth. Trees growing in the bottom of the basin did not exhibit signs of prolonged inundation such as buttressing and water staining. No water was present in the drainage or basin at the time of the site assessment on November 16, 2014.

The channel upstream of the culvert is characterized by relatively steep, incised soil banks, with eroded sides and exposed roots. The channel bottom and the basin downstream of the culvert are soil with some cobble and boulders, and vegetated with blackberries and periwinkle (*Vinca major*). Leaf litter and woody debris of decomposing branches and bark were prolific in the channel, basin, and adjacent uplands. The overstory was comprised of ponderosa pine, various species of oak (*Quercus* spp.), and northern black walnut (*Juglans hindsii*). Although the basin (when ponded) could provide aquatic habitat, and the presence of debris in the channel and basin

could provide the substrate required by CRLF for egg attachment, the channel and pond are not expected to be inundated for the depth or duration to support breeding population(s) of CRLF.

In the location of Site 5, Spring Gulch does not appear to contain any pools of suitable duration to provide potential breeding habitat for CRLF. However, Spring Gulch may contain suitable breeding habitat elsewhere along its length. While the surveyed portion of Spring Gulch does not appear to provide suitable breeding habitat, it could provide dispersal habitat for CRLF if breeding populations were present in the vicinity.

Inaccessible Aquatic Habitats within One Mile

Two tributaries to Jesus Maria Creek, one unnamed tributary to Salamander Creek, and three mapped wetland/pond features within a one-mile radius of the project site that were identified during the desktop analysis from the USGS topographic quadrangle map, the NWI map, and aerial photography were inaccessible to biologists because they were not accessible from public roadways. Some or all of the mapped wetland/pond features that were inaccessible may meet the minimum habitat requirements for CRLF breeding. In addition, the potential exists for unidentified ponds (primarily in the form of small impoundments along drainages) to exist within a one-mile radius of the project site that could provide suitable breeding habitat for CRLF, because much of the land is inaccessible and could not be surveyed.

Mexican Gulch and a smaller, unnamed drainage are tributaries to Jesus Maria Creek upstream of the project site. The unnamed tributary was inaccessible because it was on private property, and no public roadways provide access to Mexican Gulch. Similarly, a stretch of an unnamed drainage located approximately 0.8 mile southwest of the project site was inaccessible because it was on private property. Based on the USGS topographic map, the unnamed drainage appears to be a tributary to Salamander Creek. Salamander Creek is a tributary to Jesus Maria Creek approximately 2 miles northwest of the project site. The Salamander Creek tributary is a small ephemeral drainage that originates near the intersection of Ponderosa Way with Story Road, and flows westward, generally paralleling the south side of Ranch Road to Salamander Creek. The portion of this drainage near Ponderosa Way was evaluated as Habitat Assessment Site 4. In addition, three mapped wetland/pond features located on private property between Ranch Road and Story Road were also inaccessible by public road, and unable to be evaluated. The suitability of these inaccessible drainages and wetland/pond features to provide breeding and/or dispersal habitat for CRLF cannot be determined.

5.0 CONCLUSION

The segment of Jesus Maria Creek in the project site and immediate vicinity does not provide suitable breeding habitat for CRLF because only in-stream pools are present, which are subject to swift flows. Further, the pools are heavily shaded and lack emergent and overhanging vegetation. No suitable breeding habitat for CRLF was detected at the accessible aquatic habitats within a one-mile radius of the project site, and there are no known breeding populations of CRLF within a one-mile radius of the project site.

Several inaccessible aquatic habitats were present within a one-mile radius, including three mapped wetland/pond features. Some or all of these mapped wetland/pond features may meet the minimum breeding habitat requirements for CRLF and have the potential to support undetected populations of CRLF; however, because those features were inaccessible, and there is no readily available documentation of prior focused frog surveys within these features, the suitability of the waterbodies for use by CRLF could not be determined. In addition, there is the potential for unidentified ponds (primarily in the form of small natural impoundments along drainages) to exist within a one-mile radius of the project site that could provide suitable breeding habitat for CRLF, because much of the land is inaccessible and could not be surveyed.

Therefore, although the project site does not provide potential breeding habitat for CRLF, and no suitable breeding habitat was identified at any of the accessible sites within a one-mile radius of the project site, the project site may provide dispersal habitat for CRLF if undetected breeding populations are present in the vicinity.

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6.2 PERSONAL COMMUNICATION

- Benton, Melinda. District Wildlife Biologist with the Stanislaus National Forest Calaveras Ranger District. E-mail correspondence with Catherine Silvester, HELIX Biologist on 8/1/2013; 10/7/2015; and 10/13/2015.
- Holdeman, Steven J. Forest Aquatic Biologist with the Stanislaus National Forest Supervisor's Office. E-mail correspondence to Melinda Benton dated 10/9/2015 forwarded to Catherine Silvester, HELIX Biologist on 10/13/2015.



Appendix A

SITE ASSESSMENT PHOTOGRAPHS





Photo 1. (Site 1) View of the project site from downstream (west) of the Whiskey Slide Road bridge at Jesus Maria Creek.



Photo 2. (Site 1) View of Jesus Maria Creek channel upstream (east) of the Whiskey Slide Road bridge.



Photo 3. (Site 1) View of the in-stream pools in Jesus Maria Creek downstream of the Whiskey Slide Road bridge.

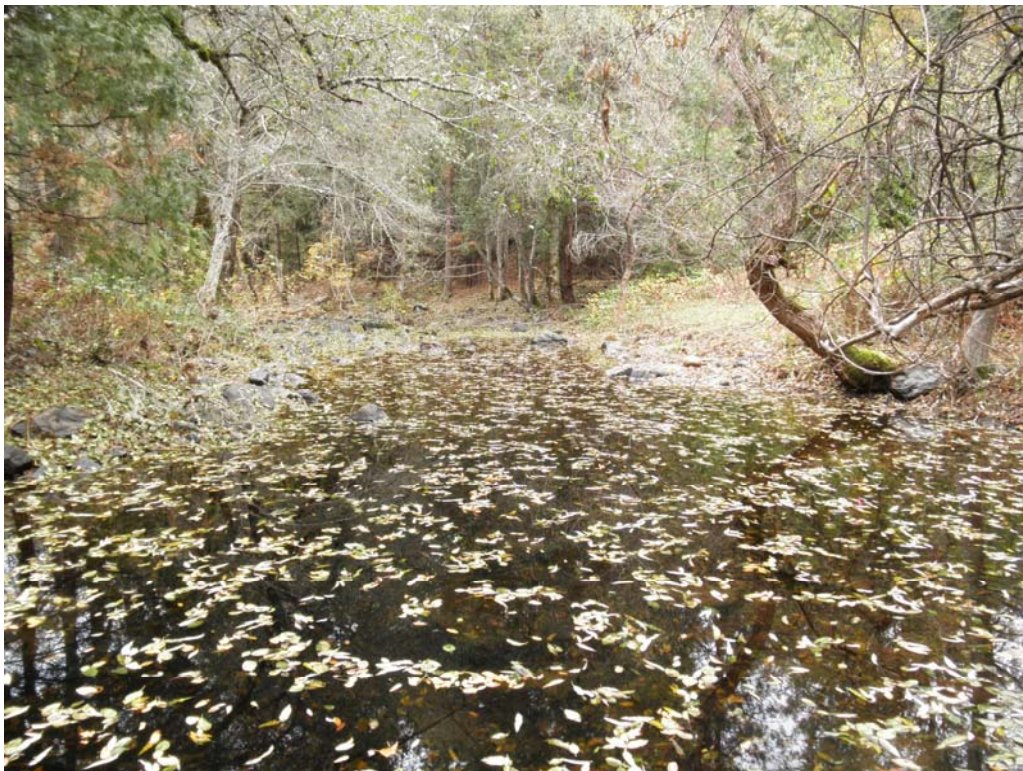


Photo 4. (Site 1) View of the channel downstream of the in-stream pools (west of the Whiskey Slide Road bridge).



Photo 5. (Site 2) View of the channel (visible from left to right across the photo).



Photo 6. (Site 3) View of the channel upstream (east) of Whiskey Slide Road.



Photo 7. (Site 3) View of pool at culvert inlet from Whiskey Slide Road.



Photo 8. (Site 3) View of culvert outfall from Whiskey Slide Road.



Photo 9. (Site 4) View of the channel (visible from left to right across the photo).



Photo 10. (Site 4) View of the channel as it continues downstream.



Photo 11. (Site 5) View of the channel upstream (east) of Whiskey Slide Road.



Photo 12. (Site 5) View of the basin below the culvert outfall downstream (west) of Whiskey Slide Road.



Appendix B

SITE ASSESSMENT DATASHEETS



Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____

(FWS Field Office)

(date)

(biologist)

Date of Site Assessment: 11/19/2014
(mm/dd/yyyy)

Site Assessment Biologists: Stringer Stephen
(Last name) (first name)

Silvester Catherine
(Last name) (first name)

(Last name)

(first name)

(Last name)

(first name)

Site Location: Calaveras, Whiskey Slide Rd @ Jesus Maria Creek
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S). Site No. 1

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Whiskey Slide Road @ Jesus Maria Creek Bridge
Brief description of proposed action:

Replacement/rehabilitation of the existing bridge

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____

Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: _____

STREAM:

Bank full width: ≈ 50'
 Depth at bank full: 6'-8'
 Stream gradient: 3°

Are there pools (circle one)? (YES) NO

If yes,

Size of stream pools: 20' x 30'

Maximum depth of stream pools: 2'-3'

Characterize non-pool habitat: run, riffle, glide, other: pools separated by boulders, exposed bed rock with narrow riffles

Vegetation: emergent, overhanging, dominant species: Creek largely lacks instream vegetation. Trees overhanging the creek include white alder, Oregon ash, incense cedar. Also blackberry on bank.

Substrate: consists primarily of exposed bed rock, cobbles, and boulders w/ decomposed vegetation and pockets of coarse sand.

Bank description: banks are earthen and well vegetated w/ grasses, forbs, and blackberry. Prolific downed logs and organic matter

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Chorus Frog vocalizations. Pools deep enough to support CRLF but lack emergent vegetation and are all located instream. ~~Also~~ to

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____	(FWS Field Office)	(date)	(biologist)
-----------------------------------	--------------------	--------	-------------

Date of Site Assessment: 11/19/2014
(mm/dd/yyyy)

Site Assessment Biologists: <u>Stringer</u>	Stephen	Silvester	Catherine
(Last name)	(first name)	(Last name)	(first name)
_____	_____	_____	_____
(Last name)	(first name)	(Last name)	(first name)

Site Location: Calaveras Co., Site No. 2, unnamed drainage 0.5 mile SW of Whiskey Slide Rd Bridge
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project
Brief description of proposed action:

Bridge replacement

- 1) Is this site within the current or historic range of the CRF (circle one)? YES NO
- 2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____ Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: _____

STREAM:

Bank full width: 10'
 Depth at bank full: 1.5 - 2'
 Stream gradient: 2-5%

Are there pools (circle one)? YES **(NO)**

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: riffle
narrow, incised ephemeral drainage.

Vegetation: emergent, overhanging, dominant species: Lacks vegetation in the channel.
Vegetation along the banks include ferns and blackberry. Douglas fir, maple,
and incense cedar are overhead. No riparian corridor associated.

Substrate: Primarily soil, with cobbles and small boulders. Leaf litter and
woody debris such as downed branches and trees are prolific in channel.

Bank description: Earthen banks, with steep, ~~shallow~~ Some undercutting
and erosion, and exposed roots. The banks are pretty well vegetated with
ferns and blackberry. Much leaf litter and woody debris.

Perennial or Ephemeral (circle one). If **ephemeral**, date it goes dry: unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:

Direct tributary to Jesus Maria Creek.

No water observed.

Necessary Attachments:

1. All field notes and other supporting documents
 2. Site photographs 465-467
- Maps with important habitat features and species location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____

(FWS Field Office)

(date)

(biologist)

Date of Site Assessment: 11/19/2014
(mm/dd/yyyy)

Site Assessment Biologists: Stringer
(Last name)

Stephen
(first name)

Silvester
(Last name)

Catherine
(first name)

(Last name)

(first name)

(Last name)

(first name)

Site Location: Calaveras County, Site No. 3, Whiskey Slide Road at
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S). unnamed drainage approx. 0.7 mile s. of Jesus Maria Creek

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Whiskey Slide Rd. over Jesus Maria Creek Bridge Replacement Project
Brief description of proposed action:

Bridge replacement

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____

Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: _____

STREAM:

Bank full width: ~ 2'
 Depth at bank full: ~ 2'
 Stream gradient: 2-5%

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: 2' x 2'

Maximum depth of stream pools: 6 inches.

Characterize non-pool habitat: run, riffle, glide, other: riffle. ephemeral drainage
steep, narrow, incised channel.

Vegetation: emergent, overhanging, dominant species: Lacks vegetation in the channel.
Vegetated along banks with ferns, blackberry, moss; honeysuckle - overhanging
the channel. Trees overhanging ~~into~~ drainage include Pacific madrone, incense cedar,
 Substrate: Primarily soil, with cobble. Leaf litter and woody debris in channel. oaks

Bank description: earthen banks, steep, eroded sides with some exposed roots.
Well vegetated with ferns, blackberry, moss and honeysuckle.
Much leaf litter and woody debris.

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: some ~~sat~~ standing water
at culvert inlet,
and trickles from culvert at
outlet. (< 6 inches pooled)

Other aquatic habitat characteristics, species observations, drawings, or comments:

The pool is at the inlet to a pipe culvert crossing under
 Whiskey Slide Road. Flows east to west.
 Steep drop off at culvert outlet.

Necessary Attachments:

1. All field notes and other supporting documents
 2. Site photographs 468-470
- Maps with important habitat features and species location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____	(FWS Field Office)	(date)	(biologist)
-----------------------------------	--------------------	--------	-------------

Date of Site Assessment: 11/19/2014
(mm/dd/yyyy)

Site Assessment Biologists: Stringer Stephen Silvester Catherine
(Last name) (first name) (Last name) (first name)

(Last name) (first name) (Last name) (first name)

Site Location: Calaveras Co., Site No. 4. unnamed drainage near intersection of
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S). Ponderosa Way and Story Road.

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project
Brief description of proposed action:

Bridge replacement

- 1) Is this site within the current or historic range of the CRF (circle one)? YES NO
- 2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____ Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: _____

STREAM:

Bank full width: 1-2'
 Depth at bank full: 1'
 Stream gradient: 2%

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: riffle
ephemeral drainage with narrow, channel incised channel.

Vegetation: emergent, overhanging, dominant species: Lacina vegetation in the channel.
Vegetated relatively sparsely along the banks with blackberry overhanging the channel, somewhat.
Overstory comprised primarily of incense cedar. Madrone were observed.

Substrate: earthen banks and bottom. much organic debris - leaf litter
and decaying woody material.

Bank description: earthen banks, steep, eroded sides with some exposed roots.
Banks undercut in some areas. Much leaf litter and woody debris.

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:

No water observed.

Chorus frog vocalizations heard - not seen.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs 472-473

Maps with important habitat features and species location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____	(FWS Field Office)	(date)	(biologist)
-----------------------------------	--------------------	--------	-------------

Date of Site Assessment: 11/19/2014
(mm/dd/yyyy)

Site Assessment Biologists: Stringer Stephen Silvester Catherine
(Last name) (first name) (Last name) (first name)

(Last name) (first name) (Last name) (first name)

Site Location: Calaveras Co., Site No. 5, Spring Gulch at Whiskey Slide Road
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project
Brief description of proposed action:

bridge replacement.

- 1) Is this site within the current or historic range of the CRF (circle one)? YES NO
- 2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____ Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: _____

STREAM:

Bank full width: 3'
 Depth at bank full: 2-3'
 Stream gradient: 2-3%

Are there pools (circle one)? YES NO
 If yes,

Size of stream pools: 20' x 20'
 Maximum depth of stream pools: 10'

Characterize non-pool habitat: run, riffle, glide, other: narrow channel with incised banks, ephemeral

Vegetation: emergent, overhanging, dominant species: No emergent vegetation was observed. The channel was vegetated with

periwinkle and blackberries in bed and banks; large basin densely vegetated with periwinkle and blackberries.
 Substrate: soil with cobble and boulders

Bank description: upstream channel - soil with incised banks, steep with eroded sides. Leaf litter, decomposing woody debris abundant.

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:

crosses under Whiskey Slide Rd. in pipe culvert.
pool is in basin downstream of culvert. No water in basin.

blackberries and periwinkle in basin and channel.
oak, ponderosa, black walnut in overstory.

No emergent species.

Necessary Attachments:

1. All field notes and other supporting documents
 2. Site photographs
- Maps with important habitat features and species location



Appendix C

PREPARER QUALIFICATIONS



STEPHEN STRINGER

Mr. Stringer holds a B.S. in Biological Sciences with an emphasis in Biological Conservation and an M.S. in Biology with an emphasis in Ecology and Evolution from California State University, Sacramento. Mr. Stringer has over 14 years of experience in the public and private sector conducting scientific research related to aquatic resource issues as well as biological, botanical, and wetland studies in support of California Environmental Quality Act (CEQA)/ National Environmental Protection Act documentation including the preparation of technical reports for biological studies and NEPA/CEQA documents. Mr. Stringer has received classroom and field training in the identification of California red-legged frog (CRLF) and their habitats and has conducted or assisted with over 15 site assessments and protocol surveys for CRLF throughout the range of the species. His CRLF-related training includes completion of the Elkhorn Slough CRLF Workshop in 2008, which consisted of classroom and field studies of CRLF and completion of the Rare Pond Species Survey Techniques Workshop led by the Laguna de Santa Rosa Foundation in 2010 which consisted of learning the latest techniques to survey for California tiger salamander, CRLF, and western pond turtle both in the classroom and in the field. Mr. Stringer has observed dozens of CRLF in the wild associated with these trainings and surveys. As a specialty biological monitor (New Crystal Springs Bypass Tunnel, San Mateo County), Mr. Stringer was authorized by the U.S. Fish and Wildlife Service to handle CRLF if they were observed in the project site.

CATHERINE SILVESTER

Ms. Silvester holds a B.A. in Biology from Augustana College, Rock Island, Illinois. Ms. Silvester has over 10 years of experience as a biologist. Her biological field experience includes conducting general biological surveys, surveys for rare plants and sensitive wildlife species, botanical inventories, habitat assessments, vegetation mapping, and wetland delineations according to the requirements of the federal/state Endangered Species Act (Sections 7 and 10a), Clean Water Act (Section 404), CEQA, and California Fish and Game Code (Sections 1600 and 2081). She also supports the construction phase of projects by providing specialty biological monitoring. Ms. Silvester's report experience includes preparing environmental impact reports, environmental impact statements, environmental assessments, and initial studies, as well as the preparation of biological technical studies including biological evaluations, natural environmental studies, rare plant survey reports, wetland delineation reports, and environmental constraints analysis. She also prepares individual and nationwide permit applications for the U.S. Army Corps of Engineers permit program under Section 404 of the CWA; Regional Water Quality Control Board Water Quality Certification Applications; and California Department of Fish and Wildlife Streambed Alteration Agreements.

Appendix E
Oak Tree Inventory Report

December 12, 2016

Mr. Chris Hodge
T.Y. Lin International
1601 Response Road, Suite 260
Sacramento, CA 95815

**RE: Certified Arborist Tree Inventory
Whiskey Slide over Jesus Maria Creek Bridge Replacement Project,
Calaveras County, California**

On behalf of T.Y. Lin International, HELIX Environmental Planning, Inc (HELIX) conducted a tree inventory at the Whiskey Slide over Jesus Maria Creek Bridge Replacement project site. The purpose of the survey was to inventory all trees meeting the definition of “oak” as described in Section 21083.4 of the Public Resources Code in order to determine whether the project would result in adverse effects to oak woodlands. This technical memorandum documents the results of the tree inventory.

Section 21083.4 of the Public Resources Code requires a County to determine whether a project in its jurisdiction would result in a conversion of oak woodlands that would adversely affect the environment. Section 1361 of the Fish and Game Code defines oak woodland as a stand of native oaks with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover. Section 21083.4 of the Public Resources Code defines oaks as a native *Quercus* that is 5 inches or more in diameter at breast height. If determined that oak woodlands would be adversely affected, the County would be required to implement one or more of the specified mitigation measures to reduce impacts from the conversion of oak woodlands.

PROJECT LOCATION AND DESCRIPTION

The Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project is located in unincorporated, central Calaveras County. The town of Mountain Ranch is approximately 2.9 miles south east of the project site, and California State Route (SR) 49 is approximately 7.3 miles west of the project site. The project site is located in Section 30 of Township 5 North,

and Range 13 East of the U.S. Geological Survey (USGS) 7.5-minute “Rail Road Flat” quadrangle map. A site and vicinity map (Figure 1) is included as **Attachment A**.

The proposed project consists of replacing the existing one-lane bridge over Jesus Maria Creek with a bridge crossing the creek approximately 30 feet west of the existing bridge, and realigning and widening Whiskey Slide Road at the bridge approaches to accommodate the replacement bridge.

METHODS

The inventory of oak trees was conducted on July 28, 2016 by International Society of Arboriculture (ISA) Certified Arborist Stephen Stringer, M.S. (WE-7129A). The limits of the inventory included all areas within the project footprint and an approximately 25-foot-wide buffer (refer to Figure 2 in **Attachment B** for the survey limits). All oak trees at least 5 inches in diameter at breast height within the survey limits were tagged and assessed in detail. The trunk diameter of each oak tree was measured at approximately 4 feet above ground level using a diameter logger’s tape measure.

The locations of the oak trees assessed were recorded using a Panasonic FZ B2 Toughpad, EOS Arrow 100 GNSS receiver, and ArcGIS Online Collector application. For each tree recorded, the species, trunk diameter, height, dripline and vigor were recorded on a data sheet. Each tree was evaluated for vigor and assigned a category ranging from poor (likely to die within 5 years) to fair (dead branches, burns, rots, insects, etc.; but will survive more than 5 years). Comments such as fire damage, irregularities, scars or other growth characteristics or vigor indicators were recorded for each oak tree.

RESULTS

A total of 12 trees in the survey limits meet the definition of “oak” as defined in Section 21083.4 of the Public Resources Code. Largely due to the burn damage from the 2015 Butte Fire, the oak trees ranged from fair to poor condition. Three of the oak trees were determined to be in poor condition/dead as a result of burn damage from the fire (Tree Nos. 3, 5, and 10). An additional tree was inventoried and tagged in the field (Tree No. 9) but is outside of the project site, and is not included in this inventory report.

A map (Figure 2) documenting the locations of the inventoried oak trees within the survey limits is included as **Attachment B** and the Arborist Survey Data Form containing the data associated with each oak tree inventoried is included as **Attachment C**.

While numerous oaks are present in the project site, no habitat meeting the criteria of “oak woodland” as defined in Section 1361 of the Fish and Game Code is present in the project site. The oaks occur within habitat identified as mixed conifer forest (*Pinus ponderosa* – *Calocedrus decurrens* Forest Alliance). Refer to Figure 2 (**Attachment B**) for the habitats present in the project site.

SUMMARY

A total of 12 trees in the survey limits meet the definition of “oak” as defined in Section 21083.4 of the Public Resources Code. The environment surrounding the project site was significantly damaged from the 2015 Butte Fire and burned three of the 12 oak trees within the impact area (Tree Nos. 3, 5, and 10). No oak woodland habitat as defined in Section 1361 of the Fish and Game Code is present in the project site. Therefore, the project would not result in adverse effects to oak woodlands

If you have any questions or comments regarding the results of the survey, please do not hesitate to contact me by e-mail at stephens@helixepi.com or by phone at (916) 365-8700 x 102.

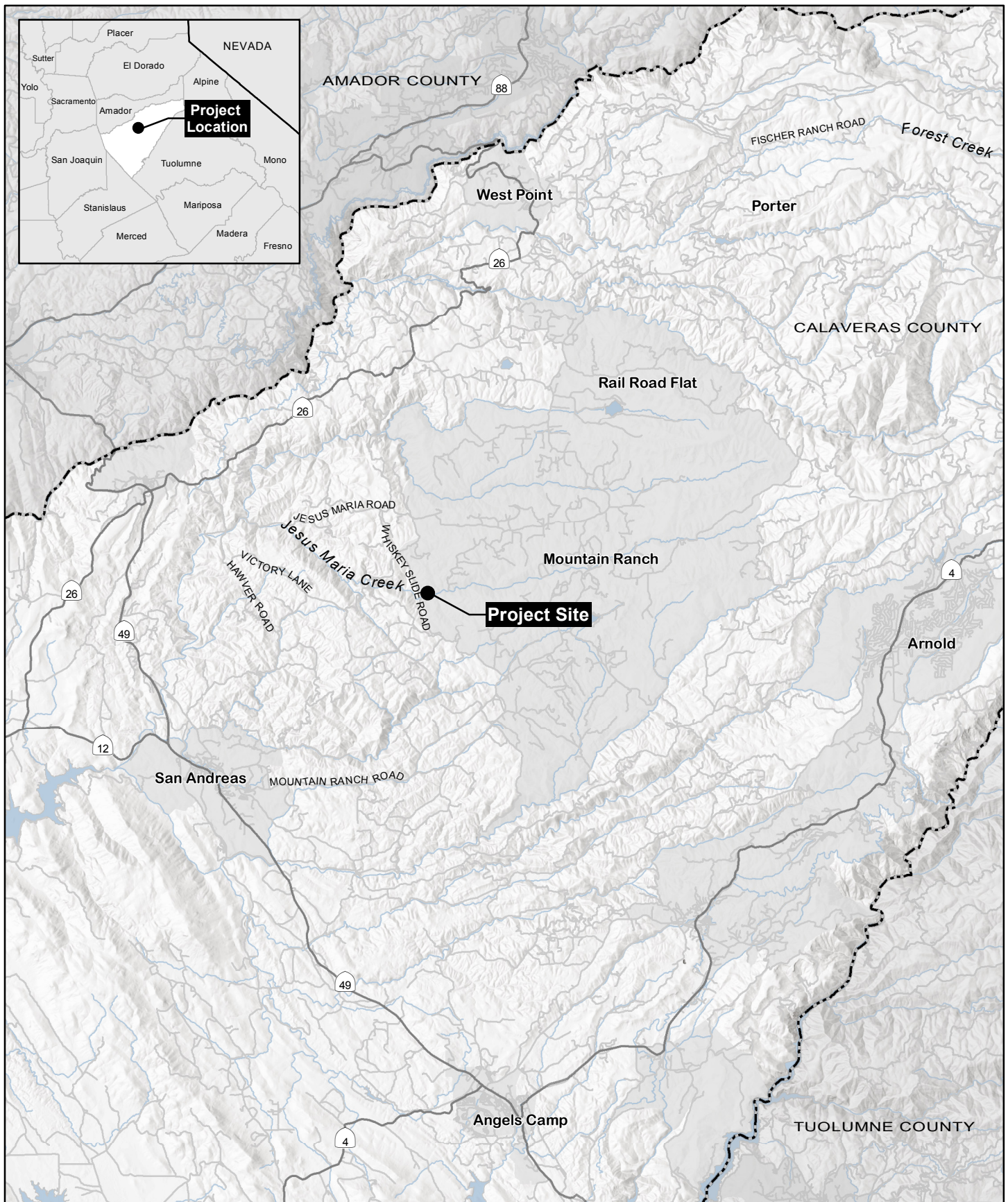
Sincerely,

Stephen Stringer

Stephen Stringer
Senior Biologist, Certified Arborist (WE-7129A)

Attachments:

- Attachment A. Site and Vicinity Map (Figure 1)
- Attachment B. Tree Impacts Map (Figure 2)
- Attachment C. Arborist Survey Data Form



1 inch = 3 miles

0 1.5 3 6 Miles

Source: Terrain: Multi-Directional Hillshade
Map Date: December 2016

Figure 1 - Site & Vicinity

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT
Calaveras County, CA

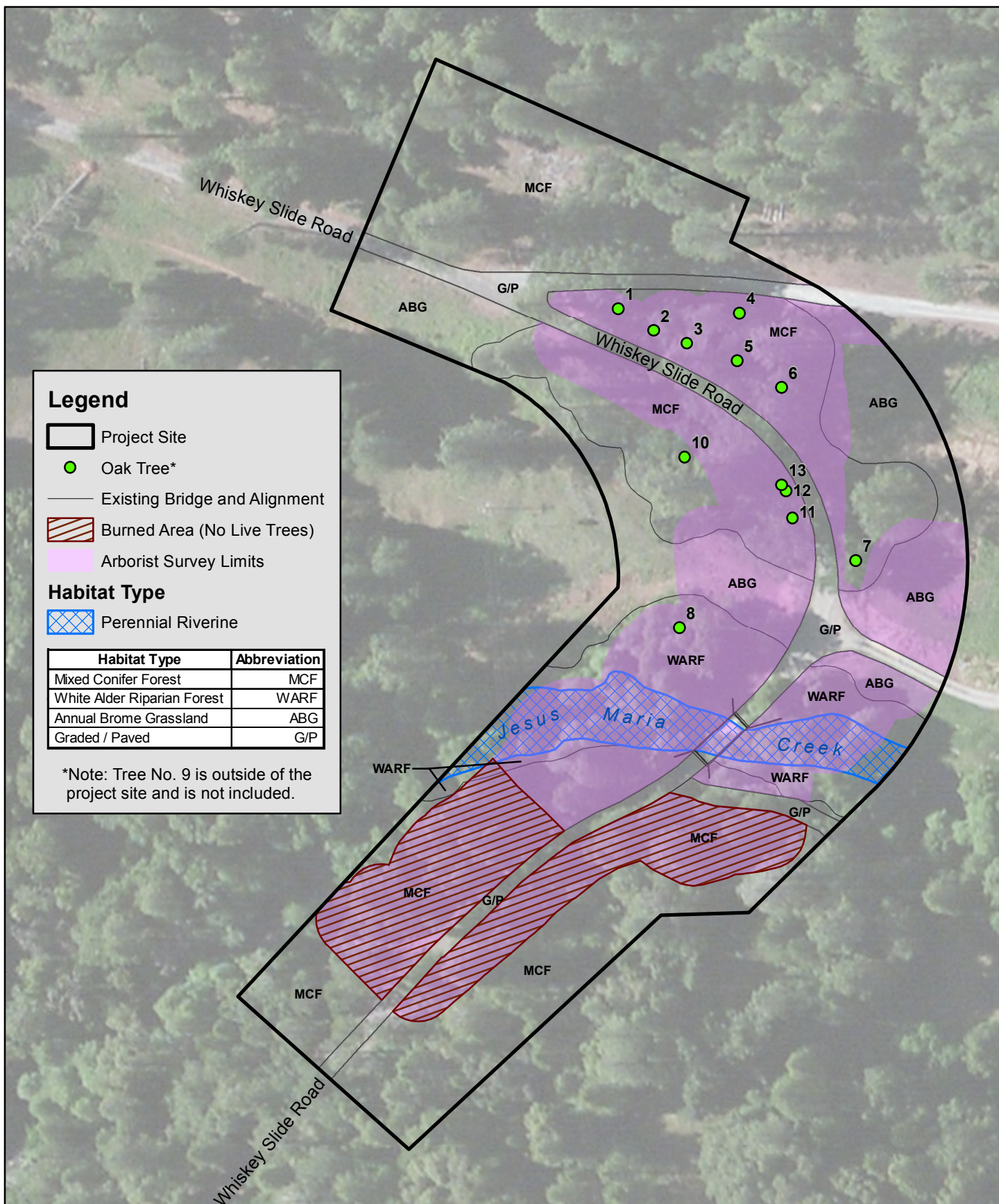
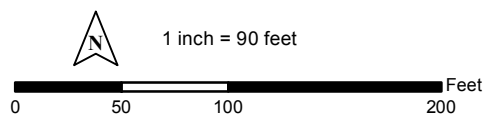


Figure 2 - Oak Tree Locations

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA



Source: ESRI World Imagery (June 19, 2014)
Map Date: December 2016

Project Name: Whiskey Slide over Jesus Maria Creek Bridge**Project Number:** TYL - 4.2**Arborist Name:** Stephen Stringer**Date:** July 28, 2016

Vigor categories: Excellent; Good: Fair-Good: Fair (dead branches, burns, rot, insects, etc.; but will survive more than 5 years): Fair-Poor: Poor (likely to die within 5 years)

Tag #	Species	DBH (inches)	Height (ft)	Dripline	Vigor	Comments
1	Valley Oak (<i>Quercus lobata</i>)	18	60	30	F	Some fire damage at base; dieback at branch tips
2	Black Oak (<i>Quercus kelloggii</i>)	35	60	35	F	Some fire damage at base; dieback at branch tips
3	Valley Oak (<i>Quercus lobata</i>)	8	20	10	P	Dead; burned
4	Valley Oak (<i>Quercus lobata</i>)	24	60	20	F-P	Burned; very sparse foliage
5	Valley Oak (<i>Quercus lobata</i>)	8	30	15	P	Dead; burned
6	Valley Oak (<i>Quercus lobata</i>)	54	60	35	F	Dieback at branch tips; epicormic sprouts
7	Valley Oak (<i>Quercus lobata</i>)	18	30	20	F	Heavy lichen growth, somewhat sparse foliage, over-mature to senescent

Arborist Survey Form

Tag #	Species	DBH (inches)	Height (ft)	Dripline	Vigor	Comments
8	Interior Live Oak (<i>Quercus wislizenii</i>)	42	40	25	F	Burned at base; some dieback/dead branches
10	Valley Oak (<i>Quercus lobata</i>)	17	50	20	P	Burned; very sparse foliage; epicormic sprouts
11	Valley Oak (<i>Quercus lobata</i>)	34	45	30	F-P	Burned; sparse canopy; dieback; lots of epicormics sprouts
12	Valley Oak (<i>Quercus lobata</i>)	10	45	10	F-P	Burned; sparse canopy; dieback; lots of epicormics sprouts
13	Valley Oak (<i>Quercus lobata</i>)	25	45	25	F-P	Burned; sparse canopy; dieback; lots of epicormics sprouts

Note: Tree No. 9 was inventoried and tagged in the field, but was outside of the project site, so is not included in this inventory report.

Appendix F

Site Photographs



Photo 1 (pre-fire). Jesus Maria Creek, facing upstream (east) from west of the bridge.
Photo date: 5/23/2013



Photo 2a (pre-fire). Jesus Maria Creek, facing upstream (east) from east of the bridge. Photo date: 5/23/2013



Photo 2b (post-fire). Jesus Maria Creek, facing upstream (east) from east of the bridge.
Photo date: 11/11/2015



Photo 3a (pre-fire). Whiskey Slide Road, facing northeast from bridge deck. Photo date: 5/23/2013



Photo 3b (post-fire). Whiskey Slide Road, facing northeast from bridge deck. Photo date: 11/11/2015



Photo 4a (pre-fire). Whiskey Slide Road, facing southwest from north of the bridge. Photo date: 5/23/2013



Photo 4b (post-fire). Whiskey Slide Road, facing southwest from north of the bridge. Photo date: 7/28/2016



Photo 5a (pre-fire). Whiskey Slide Road, facing northeast from south of the bridge. Photo date: 5/23/2013



Photo 5b (post-fire). Whiskey Slide Road, facing northeast from south of the bridge. Photo date: 11/11/2015



Photo 6a (pre-fire). View of bridge over Jesus Maria Creek, facing east from west of the bridge. Photo date: 5/23/2013



Photo 6b (post-fire). View of bridge over Jesus Maria Creek, facing southeast from west of the bridge. Photo date 11/11/2015

**Whiskey Slide Road over Jesus Maria
Creek Bridge Replacement Project
Federal Aid Number BRLO 5930 (064)**

Aquatic Resources Delineation Report

May 2017



Prepared for:

County of Calaveras

891 Mountain Ranch Road

San Andreas, CA 95249

Prepared by:

HELIX Environmental Planning, Inc.

11 Natoma Street, Suite 155

Folsom, CA 95630

**Whiskey Slide over Jesus Maria Creek Bridge Replacement Project
Federal Aid Number BRLO 5930(064)**

Aquatic Resources Delineation Report

Prepared for:

T.Y. Lin International
1601 Response Road, Suite 260
Sacramento, CA 95815

and

Calaveras County
Public Works Department
891 Mountain Ranch Road
San Andreas, CA 95249

Prepared by:

HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 155
Folsom, CA 95630

May 2017

Calaveras County, California
Caltrans District 10-Bridge No. 30C0062
BRLO-5930 (064)

May 2017

California Department of Transportation

Prepared By: Catherine Silvester Date: 5/1/2017

Catherine Silvester, Environmental Specialist
HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 155, Folsom, CA 95630
(916) 365-8715
catherines@helixepi.com

Prepared By: Mark Davis Date: 5/1/2017

Mark Davis, Senior Civil Engineer
Calaveras County Public Works
891 Mountain Ranch Road
San Andreas, CA 95249
(209) 754-6401
MDavis@co.calaveras.ca.us

Executive Summary

The County of Calaveras (County), in coordination with the California Department of Transportation (Caltrans), proposes to replace the existing bridge at Whiskey Slide Road over Jesus Maria Creek (Bridge No. 30C0062) in Calaveras County, California. The County proposes to use federal funds from the Federal Highway Administration (FHWA). The County Public Works Department is the local lead agency for California Environmental Quality Act (CEQA) compliance. Caltrans is the lead agency for National Environmental Policy Act (NEPA) compliance.

On behalf of the County in coordination with Caltrans, HELIX has prepared this Aquatic Resources Delineation Report to document potential wetlands and other waters of the U.S. in the 3.92-acre project site for the Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project (project).

The Whiskey Slide Road over Jesus Maria Creek Bridge is located approximately 2.5 miles southeast of the intersection of Whiskey Slide Road with Jesus Maria Road, and approximately 3.5 miles northwest of the intersection of Whiskey Slide Road with Mountain Ranch Road in the town of Mountain Ranch, California. State Route (SR) 49 is approximately 7.3 miles west of the project site. In the project site, Whiskey Slide Road is a rural local road in mountainous terrain with a 10- to 11-foot-wide paved roadway and narrow shoulders. The bridge over Jesus Maria Creek is a paved, single lane, single-span steel girder structure with a concrete deck built in 1936. The structure is an approximately 39-foot-long and 14-foot-wide bridge deck supported on reinforced concrete spread footing founded on bedrock with reinforced concrete wingwalls. Forest Creek flows through the project site from the east to the southwest.

Field work for the delineation was conducted on May 23, 2013 and was visited again on November 11, 2015 to assess the conditions of the site since the original delineation was conducted. An additional general field review visit was conducted on July 28, 2016. The delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers [USACE] 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a).

The delineation study area included the entire 3.92-acre project site, and all aquatic resources were delineated to their full extent in the study area. A total of 0.23 acre of potential waters of the U.S. was identified in the study area, all within the ordinary high water mark (OHWM) of Jesus Maria Creek. **Table ES-1** presents the Cowardin classification, location, and size of the aquatic resource in the survey area.

Table ES-1
Aquatic Resources in the Survey Area

Aquatic Resource Name	Cowardin classification	Location (lat/long)	Size		
			*Area (acres)/square feet	Length (ft)	Avg. width (ft)
Jesus Maria Creek	Upper perennial riverine, rock bottom	38.2582; -120.579 NAD 83	0.23/9,957	280	36
Total potential waters of the U.S.			0.23/9,957		

* Acreage calculations are rounded to the nearest thousandths of an acre.

In the project site, Jesus Maria Creek is a natural, perennial waterway with unimproved banks, and a cobble, stone, boulder, and bedrock bottom with some coarse sand and gravel substrate. It is a non-navigable, indirect tributary of a traditional navigable waterway (Calaveras River) via the North Fork Calaveras River. Jurisdictional characteristics include a bed and banks with a clearly defined channel and an OHWM. Characteristics indicating presence of an ordinary high water mark include a change in vegetation and soils, a clear natural line impressed on the bank, shelving, and the presence of litter and debris.

This document has been prepared in support of a request for a Preliminary Jurisdictional Determination (PJD) and Clean Water Act (CWA) Section 404 permit from the U.S. Army Corps of Engineers (USACE), as well as permit applications to the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW). The results presented in this document are preliminary until concurrence is received from the applicable resource agencies.

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Acronyms and Abbreviations

amsl	above mean sea level
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
Caltrans	California Department of Transportation
CFR	Code of Federal Regulations
County	Calaveras County
CWA	Clean Water Act
EPA	Environmental Protection Agency
GPS	global positioning system
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
project	Whiskey Slide over Jesus Maria Creek Bridge Replacement Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1.0 Introduction

On behalf of the County of Calaveras (County), in coordination with the California Department of Transportation (Caltrans), HELIX has prepared this Aquatic Resources Delineation Report to document potential wetlands and other waters of the U.S. in the project site for the Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project (project).

This document has been prepared in support of a request for a Preliminary Jurisdictional Determination (PJD) and Clean Water Act (CWA) Section 404 permit from the U.S. Army Corps of Engineers (USACE), as well as permit applications to the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW). The results presented in this document are preliminary until concurrence is received from the applicable resource agencies.

1.1 Project Location

The 3.92-acre project site is located in unincorporated, central Calaveras County (**Figure 1 in Appendix A**). The Whiskey Slide Road over Jesus Maria Creek Bridge is located approximately 2.5 miles southeast of the intersection of Whiskey Slide Road with Jesus Maria Road, and approximately 3.5 miles northwest of the intersection of Whiskey Slide Road with Mountain Ranch Road in the town of Mountain Ranch, California. State Route (SR) 49 is approximately 7.3 miles west of the project site. The project site is in Section 30 of Township 5 North, and Range 13 East of the U.S. Geological Survey (USGS) 7.5-minute “Rail Road Flat” quadrangle map (**Figure 2 in Appendix A**). The approximate center of the project site is at latitude: 38.2582; longitude: -120.579, NAD 83.

1.2 Driving Directions

To reach the project site from downtown Sacramento, follow California State Route (SR)-99 S for 26.1 miles to Liberty Road in San Joaquin County. Take exit 273 from SR-99 S. Turn left onto Liberty Road, and proceed east for 12.5 miles. Turn right onto SR-88 W and proceed south for 2.9 miles. Turn left onto SR-12 E/W Highway 12 and proceed east for 22.6 miles. Continue onto W St. Charles Street/SR-49 S for 1.7 miles, then turn left onto Mountain Ranch Road. Proceed on Mountain Ranch Road for 8.8 miles, then turn left onto Whiskey Slide Road, and follow for approximately 3.4 miles to Jesus Maria Creek.

1.4 Contact Information

Calaveras County Public Works Department
Ms. Tina Sok
891 Mountain Ranch Road, San Andreas, CA 95249
(209) 754-6401

A portion of the project site is under private ownership, and access to the creek is via the private property. Contact information for the property owner is provided:

Patricia Morales
P.O. Box 733
Mountain Ranch, CA 95246
(209) 754-9588
pmora46@gmail.com

The physical address of the property requiring access is:

11052 Whiskey Slide Road
Mountain Ranch, CA 95246

A signed statement from the property owner allowing USACE personnel to enter the property and collect samples during normal business hours is included as **Appendix B**.

2.0 Regulatory Setting

Any person, firm, or agency planning to alter or work in “waters of the U.S.,” including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the CWA (33 United States Code [USC] 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from the USACE (33 USC 403). The CDFW requires notification prior to commencement, and possibly a Streambed Alteration Agreement (SAA) pursuant to California Fish and Game Code Subsection 1600 et seq., if a proposed project would result in the alteration or degradation of a stream, river, or lake in California.

Whenever an activity requires a federal CWA Section 404 permit or a Rivers and Harbors Act Section 10 permit, it must also obtain a CWA Section 401 Water Quality Certification for impacts to “waters of the state.” All waters of the U.S. are also considered waters of the state. The RWQCB administers the 401 Certification program.

Federal CWA Section 401 requires that every applicant for a Section 404 permit must receive a Water Quality Certification or waiver of such certification that the proposed activity will not violate state and federal water quality standards.

Waters of the U.S. are defined as: all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters (33 Code of Federal Regulations [CFR] Part 328). With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, and/or the presence of litter and debris.

Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The USACE has determined that not all features which meet the wetland definition are, in fact, considered to be “waters of the U.S.” Normally, features not considered as waters of the U.S. include (a) non-tidal drainage and irrigation ditches excavated on dry land; (b) artificially irrigated areas which would revert to upland if the irrigation ceased; (c) artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing, (d) artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons; and, (e) water filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)). Other features may be excluded based on Supreme Court decisions (e.g. SWANCC and Rapanos) or by regulation, including swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow), and ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water (USACE and EPA 2008).

“Waters of the state” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050(e)).

3.0 Methods

3.1 Data Gathering

The following sources were used in preparation of this delineation:

- Aerial photography taken June 24, 2014 downloaded from Google Earth®.
- Topographic contours from the USGS 7.5-minute “Rail Road Flat” quadrangle map
- Corps of Engineers Wetlands Delineation Manual (USACE 1987)
- A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008a)
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008b)
- Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016)
- National Wetland Inventory (NWI) online wetland mapper (USFWS 2013; 2015; 2017)

3.2 Delineation Study Area

The entire 3.92-acre project site was included in the delineation study area. Potentially jurisdictional features were delineated to their extent within the study area. Refer to the delineation map in **Appendix D** for the limits of the study area.

3.3 Delineation Methods

3.3.1 Field Methods

The jurisdictional delineation for the project was accomplished by a field delineation on May 23, 2013 and office-based mapping, data gathering, and final delineation. Fieldwork for the delineation was conducted by HELIX biologists, Stephen Stringer, M.S., and Catherine Silvester. The project site was again visited by Catherine Silvester on November 11, 2015, following the Butte Fire that burned the area during the summer of 2015. The purpose of the visit was to assess the conditions of the site following the fire, and to extend the delineation to match expanded project limits. The fire did not affect the conditions in the creek in such a way that would render the data collected in 2013 unsuitable. No new aquatic features were observed in the project site. While the delineation of aquatic resources in Jesus Maria Creek was extended further west based on

a slightly larger project site, no new or changed aquatic resources were observed in the project site. The conditions of the site following the fire did not result in the need for a new delineation. The project site was visited again on July 28, 2016 by Stephen Stringer, and again no notable changes had occurred in the project site that would render the data collected in 2013 unsuitable.

The delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). Vegetation, soils, and hydrologic characteristics were visually assessed during the field delineation by pedestrian transects to obtain 100 percent visual coverage of the site. Representative photographs were taken of the project site during each site visit, and of each recorded feature. Pre- and post-fire photos are provided, and all photographs are summarized in Table C-1 in **Appendix C**. The plant species identifiable at the time of the survey were recorded (refer to **Appendix E** for the list of plants observed with the wetland indicator status for each species). Plant nomenclature follows the *Arid West 2016 Regional Wetland Plant List* (Lichvar et al. 2016).

The limits of potential waters of the U.S. were mapped in the field using a Trimble GeoXT[®] sub-meter accurate global positioning system (GPS) by walking along the OHWM and aerial photography. These data were exported into ArcMap 10[®] and corrected and then used to produce the map of potential waters of the U.S. and to calculate the acreage of potential waters of the U.S. at the site.

The USACE “three-parameter” method was used to determine the presence of wetlands, which involves identifying indicators of hydrophytic vegetation, hydric soils, and wetland hydrology according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008) and the *Arid West 2016 Regional Wetland Plant List* (Lichvar et al. 2016). and the most current *Arid West Regional Wetland Plant List* available at the time of the delineation (Lichvar et al. 2014). A review of recent updates to the *Arid West Regional Plant List* (Lichvar et al. 2016) was conducted to determine whether any such updates would affect the results of the delineation. Updates to the plant list did not affect the results of the delineation and no modifications to the delineation were warranted. No potential wetlands were identified in the project site during any of the site visits.

3.3.2 Determination of Potential Clean Water Act Jurisdiction

The 2008 guidance (USACE and EPA 2008) clarifies the position of the EPA and USACE regarding what should be considered a water of the U.S. in light of what is commonly referred to as the “Rapanos Decision” including a discussion of how canals and ditches should be treated. The guidance provides assistance to USACE regulatory

personnel and applicants in making determinations, but has not been codified under federal regulations. Typically, the USACE and EPA will assert jurisdiction over the following waters:

- TNWs;
- Wetlands adjacent to TNWs;
- Non-navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and/or,
- Wetlands that directly abut such tributaries.

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and/or,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and/or,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

“A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters.”

3.4 Habitat Nomenclature

Habitat nomenclature is generally derived from *A Manual of California Vegetation, Second Edition* (Sawyer 2009) and CDFW's California Wildlife Habitat Relationships classification scheme (CDFW 2015), and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

3.5 Limitations that May Influence Results

The recent prolonged drought may have influenced the quality and extent of aquatic resources in the area from historical levels. Delineations of aquatic resources performed in current conditions may reflect affected habitat conditions and may also influence the results of field reviews.

4.0 Existing Conditions

4.1 Landscape Setting

The project site is located in a rural area of Calaveras County. Land use in the vicinity is undeveloped, forest land, and residential with cleared pastures. The project site is associated with existing transportation land uses in a privately owned residential property with cleared pastures north of Jesus Maria Creek used for cattle grazing of approximately 10 cattle at a time (Pat Morales, pers. comm. on November 11, 2015). The cattle have access to the creek. Through the project site, Whiskey Slide Road is paved and narrow. The bridge over Jesus Maria Creek is a one lane, paved bridge. Refer to **Figure 3** in **Appendix A** for an aerial image of the project site, and **Appendix C** for ground photographs of the project site. Photos 1a, 1b, 2a, and 2b show pre- and post-fire images of Jesus Maria Creek, and photos 3a, 3b, 4, 5a, 5b, 6, 7a and 7b show pre- and post-fire images of the bridge and surrounding areas along Whiskey Slide Road.

Jesus Maria Creek is a tributary to the North Fork Calaveras River, and generally flows from the east to the west. Through the project site, Jesus Maria Creek flows from the southeast to the northwest, under Whiskey Slide Road, where it curves southward and flows to the southwest. The majority of the project site is characterized by gentle slopes and undulating topography with grades ranging from approximately 2 to 30 degrees. Steeper slopes occur in both the northern portion of the project site, north of Whiskey Slide Road, and south of Jesus Maria Creek, east of Whiskey Slide Road with slopes greater than 60 degrees in those areas. The creek banks in the study area are generally broad and slope gently to the creek. The south bank east of Whiskey Slide Road is

slightly steeper due to a constructed driveway that follows the creek, and that gives way to steep slopes directly south of the driveway and east of Whiskey Slide Road south of the creek. Elevations in the project site range from approximately 1,695 feet above mean sea level (amsl) to 1,775 feet amsl (516.6 – 541.02 meters amsl), with elevations increasing to the north, south, and east.

4.1.1 Field Conditions

The project site was first evaluated for potentially jurisdictional features and biological resources during a site visit conducted on May 23, 2013 and was revisited on November 11, 2015 and July 28, 2016. As described in Section 3.3.1, *Field Methods*, the purpose of the November 2015 site visit was to evaluate the conditions of the project site following the Butte Fire that burned the area during the summer of 2015 and to extend the delineation to match expanded project limits. The field conditions of the individual site visits are discussed in the following paragraphs.

The weather during the May 2013 site visit was sunny and mild. The average monthly rainfall in the area for May is approximately 1.9 inches.¹ The area received 0.6 inch of rain in the month of May prior to the site visit.² The most recent significant rain prior to the site visit was 0.12 inch on May 15 (eight days prior to the site visit).

During the site visit on November 11, 2015, the weather during the site visit was partially sunny and mild. The normal rainfall for the area for the month of November is 4.4 inches. This area received 5.32 inches of rain in the month of November prior to the site visit, most of which had occurred in two significant storms.³ The most recent rain prior to the site visit was the day before (November 10) in which 3.49 inches were received. The other recent significant storm was 1.83 inches on November 3 (eight days prior to the site visit).

The area was burned by the Butte Fire during the summer of 2015. The extent of the burn through the project site was observed during the November 11, 2015 site visit. While upland habitats south of the bridge and wooded upland habitats north of the bridge were substantially burned, the riparian habitat was not significantly altered. Within the burned areas, the trees, understory, and soils were burned and soils were exposed. The bridge was not burned during the fire. Subsequently, trees and shrubs adjacent to the creek east of the bridge were trimmed and cleared. Although the composition of the habitats present

¹ Data Tools: 1981 – 2010 Monthly Normals for West Point, CA. <<https://www.ncdc.noaa.gov/cdo-web/datatools/normals>> Accessed 2/28/2017.

² NOAA Record of Climatological Observations for West Point, CA. 24 Hour Daily Precipitation Amounts for May 1 – 23, 2013.

³ NOAA Record of Climatological Observations for West Point, CA. 24 Hour Daily Precipitation Amounts for November 1 – 11, 2015.

was altered by the fire, the overall habitat types did not change substantially (refer to Section 4.1.2, *Vegetation Communities/Habitat Types*, for a more detailed discussion of the fire's effects on the habitats). Some soil erosion from the burned soils and recent significant storms was observed (refer to Section 4.1.4, *Hydrology*). While the fire did result in notable changes to the vegetation and soils on the project site, it did not result in changes to the morphology of the creek that revised the OHWM as mapped during the May 2013 site visit. During the November 2015 site visit, the delineation of aquatic resources in Jesus Maria Creek was extended further west based on a slightly larger project site; however, no new or changed aquatic resources were observed in the project site (such as wetlands or other aquatic resources). The conditions of the site following the fire did not result in the need for a new delineation. Refer to **Appendix C** for ground photographs with pre-fire and post-fire conditions shown.

During the site visit on July 28, 2016, the weather during the site visit was sunny and warm. The normal rainfall for the area for the month of July is 0.01 inch.¹ This area received no rain in the month of July prior to the site visit.⁴ No notable changes to the field conditions were observed during the July 2016 site visit, and no revisions to the delineation conducted in May 2013 and the November 2015 expansion were needed.

4.1.2 Vegetation Communities/Habitat Types

The plant communities/habitat types that occur within the project site include: mixed conifer forest (2.37 acres), annual brome grassland (0.66 acre), white alder riparian forest (0.30 acre), graded/paved (0.36 acre), and perennial riverine (Jesus Maria Creek; 0.23 acre). The aquatic habitat in Jesus Maria Creek is described in detail in Section 4.2, *Aquatic Resources*. Refer to **Figure 4** in **Appendix A** for the extent of vegetation communities/habitat types in the project site.

The project site is located within a greater, expansive mixed conifer forest. The tree canopy of this community is dominated by ponderosa pine (*Pinus ponderosa*) and incense cedar (*Calocedrus decurrens*). Oaks (*Quercus* sp.) are also commonly present in the tree canopy. Prior to the fire, the shrub layer of this habitat type was patchy and where present was dominated by western poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus armeniacus*), and snowberry (*Symphoricarpos* sp.). The herbaceous layer was very sparse where the shrub layer was present. Where the shrub layer was absent the herb layer is similar to the annual brome grassland. The mixed conifer forest south of the creek, both east and west of Whiskey Slide Road was substantially burned by the Butte Fire. Trees were burned, although most of the larger

⁴ NOAA Record of Climatological Observations for West Point, CA 24 Hour Daily Precipitation Amounts for July 2016.

trees appear to have survived, and the understory was burned extensively. The understory is expected to regenerate, and likely would be more extensive until the overstory regenerates.

Areas that have been cleared for the adjacent private property are annual brome grassland. This herbaceous community in the project site is dominated by nonnative annual grasses and forbs including soft chess (*Bromus hordeaceus*), ripgut grass (*B. diandrus*), bristly dogtail grass (*Cynosurus echinatus*), vetch (*Vicia* sp.), and clover (*Trifolium* sp.). Native grasses and forbs occur but do not dominate the community. This area in the project site was not substantially burned by the fire, although some trees and soils along Whiskey Slide Road, south and west of the road were burned.

The white alder riparian forest occurs in a relatively narrow corridor along Jesus Maria Creek. The tree canopy is dominated by white alder (*Alnus rhombifolia*) with lesser amounts of red willow (*Salix laevigata*). Prior to the fire, the shrub layer was patchy and where present was dominated by Himalayan blackberry and virgin's bower (*Clematis* sp.). The herb layer was very sparse where the shrub layer was present. Where the shrub layer was absent, the herb layer was dominated by Philadelphia fleabane (*Erigeron philadelphicus* var. *philadelphicus*), speedwell (*Veronica* sp.), dock (*Rumex* sp.), and rush (*Juncus* sp.). Following the Butte Fire, the shrub layer south of the bridge was burned and the extent of Himalayan blackberry was reduced. Additionally, portions of the white alder riparian forest adjacent to the private property east of the bridge were partially modified. Most of the riparian trees and shrubs were cleared for property maintenance.

The graded/paved area occurs along Whiskey Slide Road where the road has been scraped and paved, and at driveways intersecting the roadway from the east. This area is largely barren of vegetation, although some non-native grasses and forbs occur along the roadway margins.

4.1.3 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey online tool was accessed on May 22, 2013 and the NRCS soil department was contacted to determine soil types occurring in the project site; however, no soil survey data was available for anywhere in Calaveras County. The NRCS Soil Survey online tool was accessed again on October 17, 2015 and March 1, 2017 to verify no soil survey data became available in the interim.

Soil mapping contained in the Calaveras County General Plan identifies the project area as Group 6 soils which are typified by acid, rocky, or stony soil over slate rock (Calaveras 1996). Conifers grow well in this soil although there will be occasional pockets of oaks, shrubs, and grasses, and the soils can be used for annual range and irrigated orchards (Calaveras 1996). No soil map was prepared due to lack of detailed information available.

4.1.4 Hydrology

The project is situated on the western slope of the Sierra Nevada foothills in the Upper Calaveras Watershed. The watershed is approximately 550-square miles and is located in Calaveras County. Snow melt from higher elevations are the primary sources of hydrology for lower elevation drainages (such as Jesus Maria Creek). These drainages in the Sierra Nevada are important tributaries to the hydrology of the waterways throughout the Central Valley and to the biological functions of deltas along the coast. The Calaveras River collects the flows of tributaries from the high mountains, and recharges New Hogan Lake, a reservoir at the base of the range. The river continues through the San Joaquin Valley to the San Joaquin River west of Stockton.

Jesus Maria Creek is a tributary to the North Fork of the Calaveras River, and generally flows from the east to the west. Through the project site, Jesus Maria Creek flows from the southeast to the northwest, under Whiskey Slide Road, where it curves southward and flows to the southwest. The only aquatic resource in the project site is Jesus Maria Creek. Due to the topography in the area, stormwater from the surrounding uplands flows toward Jesus Maria Creek, primarily as sheet flow.

Areas north of Whiskey Slide Road, in the northern portion of the project site are higher than the road featuring relatively steep slopes, and flows from the surrounding hills are collected in a shallow, excavated roadside ditch that enters the project site from the northwest and follows the north side of a segment of Whiskey Slide Road. A small (less than 12 inches diameter) pipe culvert along the ditch carries flows under a private drive that intersects Whiskey Slide Road in the northern portion of the project site (see Photo 8 in **Appendix C**). A second pipe culvert (approximately 18 to 24 inches diameter) in the private drive is located approximately 100 feet east of its intersection with Whiskey Slide Road and is located north of the ditch. The pipe culvert collects surface runoff from the surrounding uplands and directs flows under the driveway to the ditch north of Whiskey Slide Road (see Photos 9a and 9b in **Appendix C**). As Whiskey Slide Road turns southward, flows from the ditch cross under the road in a small (less than 12 inches diameter) pipe culvert and outlet to an upland area south of Whiskey Slide Road. No

constructed or natural channels are present south of the road. No flowing or standing water or hydrophytic vegetation has been observed in any areas outside of Jesus Maria Creek during any of the site visits.

At the time of the November 2015 site visit, the recent significant rain events (over 3 inches received the day before the site visit and nearly 2 inches received two weeks prior), and disturbed soils from the fire resulted in distinct erosional patterns extending from the small pipe culvert that outlets to the upland area south of Whiskey Slide Road (see Photos 10, 11, and 12 in **Appendix C**). Straw wattles had been placed along the erosional feature to slow flows and prevent additional erosion. Although the area had received significant rains within 24 hours of the site visit, no water was present in the erosional feature or the ditch north of Whiskey Slide Road. The feature lacked the characteristics of an OHWM and was clearly an erosional feature. The constructed roadside ditch north of Whiskey Slide Road and the erosional feature occur in upland areas and are characterized by low volume, infrequent flow during and shortly after significant storm events. For these reasons, the constructed roadside ditches and the erosional feature are not considered aquatic resources pursuant to the 2008 Rapanos guidance regarding roadside ditches and erosional features (USACE and EPA 2008), and are not discussed further.

4.1.5 USFWS National Wetlands Inventory

The USFWS National Wetlands Inventory online database (USFWS 2017) was reviewed to determine if there are any wetlands or other waters of the U.S. mapped by the USFWS on the project site. The National Wetlands Inventory online database identifies Jesus Maria Creek, classified as riverine, but no wetlands or other aquatic habitats at the project site.

4.1.6 Interstate or Foreign Commerce Connection

A reach of the Calaveras River, located approximately 8 miles west of the project site, is a traditionally navigable water (TNW) from its mouth to 2,000 feet upstream from I-5⁵ and may function to support interstate or foreign commerce. Jesus Maria Creek is hydrologically connected with the navigable stretch of the Calaveras River via the North Fork Calaveras River. Jesus Maria Creek flows westward for approximately 6 miles prior to discharging into the North Fork Calaveras River which joins the South Fork into the Calaveras River. Therefore, Jesus Maria Creek is an indirect tributary to a TNW. Due to

⁵ Navigable reaches of Calaveras River from
<<http://www.spk.usace.army.mil/Missions/Regulatory/Jurisdiction/NavigableWatersoftheUS.aspx>>
accessed June 6, 2013.

its isolated location and relatively low water level, Jesus Maria Creek is not used for interstate or foreign commerce and is likely not used recreationally by foreign or interstate travelers.

4.2 Aquatic Resources

4.2.1 Overview

A total of 0.23 acre of potential waters of the U.S. is present in the project site consisting of a segment of Jesus Maria Creek. Refer to the aquatic resources delineation map in **Appendix D** for the delineated limits of Jesus Maria Creek at the OHWM. An excel spreadsheet summarizing the aquatic resources in the project site is included as **Appendix F**.

Table 1 presents the Cowardin classification, location, and size of the aquatic resources in the survey area.

Table 1 Aquatic Resources in the Survey Area					
Aquatic Resource Name	Cowardin classification	Location (lat/long)	Size		
			*Area (acres)/ square feet	Length (ft)	Avg. width (ft)
Jesus Maria Creek	Upper perennial riverine, rock bottom	38.2582; -120.579 NAD 83	0.23/ 9,957	280	36
Total potential waters of the U.S.			0.23/ 9,957		

* Acreage calculations are rounded to the nearest hundredth of an acre.

In the project site, Jesus Maria Creek is a natural, perennial waterway with unimproved banks, and a cobble, stone, boulder, and bedrock bottom with some coarse sand and gravel substrate (see Photos 1, 2a, and 2b in **Appendix C** – Photo 2a presents the pre-fire condition and Photo 2b presents the post-fire condition of the same view point). As described in Section 4.1, *Landscape Setting*, the creek generally flows east to west through the project site and is a tributary to the North Fork Calaveras River. The water depth of the creek varies depending on precipitation from higher elevations, and the depth

of the OHWM varies from approximately 1 foot deep east of the bridge to 1 to 3 feet west of the bridge. The creek bottom is generally devoid of vegetation, with occasionally occurring emergent plants such as *Darmera peltata*.

In the project site, Jesus Maria Creek has a bed and banks with a clearly defined channel and an OHWM. East of the bridge, the creek banks gently slope away from the creek, resulting in a broad channel featuring boulders, stones and large cobble which form small channels and pools within the banks of the creek when water levels are low. The OHWM east of the bridge is approximately 1 foot deep and is defined by a change in vegetation and soils, a clear natural line impressed on the bank, staining on the trees, and the presence of litter and debris. The creek width narrows significantly at the bridge, where the substrate is primarily exposed bedrock with cobble and gravel on bedrock. Where the Whiskey Slide Road Bridge crosses the creek, the bridge features concrete abutments, and Jesus Maria Creek has a bed and banks, and an OHWM (see Photos 6, 7a, and 7b in **Appendix C** – Photo 6 presents the pre-fire condition of the bridge, and Photos 7a and 7b present the post-fire condition of the bridge). East of the bridge, the channel features a bedrock bottom and steep soil banks. The creek features a well-defined channel with OHWM approximately 1 to 2 feet. Jurisdictional characteristics include a clear, natural line impressed on the bank, shelving, litter and debris, and a change in vegetation and soils. Further east, the bedrock substrate converts to primarily stones, gravel and cobble with some exposed bedrock. The creek depth increases as the substrate changes, where it reaches approximately 3 feet deep at the OHWM.

Jesus Maria Creek is a non-navigable tributary of a TNW (Calaveras River) that typically (e.g., except due to drought) flows year-round or has continuous flow at least seasonally (e.g., typically 3 months).

4.2.2 Waters of the State

Jesus Maria Creek is considered a water of the State subject to regulation by the RWQCB under Section 401 of the CWA and/or the Porter-Cologne Act. Jesus Maria Creek and its riparian corridor are also subject to regulation by Sections 1600 et seq. of the California Fish and Game Code.

5.0 Summary

HELIX conducted a delineation of potential waters of the U.S./State occurring within the project site. A total of 0.23 acre of potential waters of the U.S./State were delineated in the project site, which consisted of a segment of Jesus Maria Creek. No additional wetlands or other waters of the U.S. were identified in the project site. The results of this jurisdictional delineation are preliminary until verified by the resource agencies.

6.0 References

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6.2 Personal Communication

Morales, Pat. Private property owner. Personal communication with Catherine Silvester, HELIX Biologist on 11/11/2015.



Appendix A

FIGURES

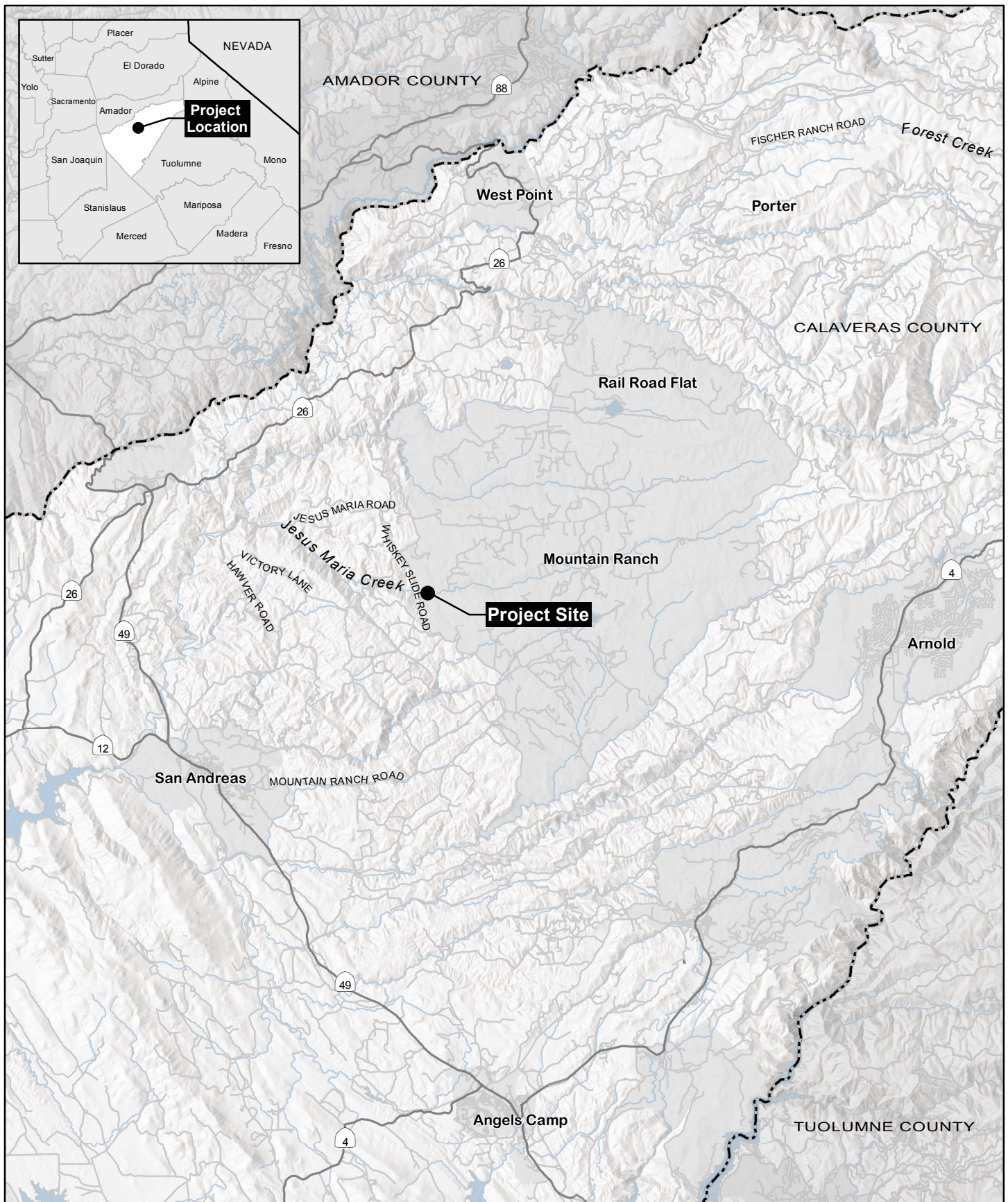
Figure 1. Site and Vicinity Map

Figure 2. Project Location,
USGS Topographic Map

Figure 3. Aerial Map

Figure 4. Habitat Map





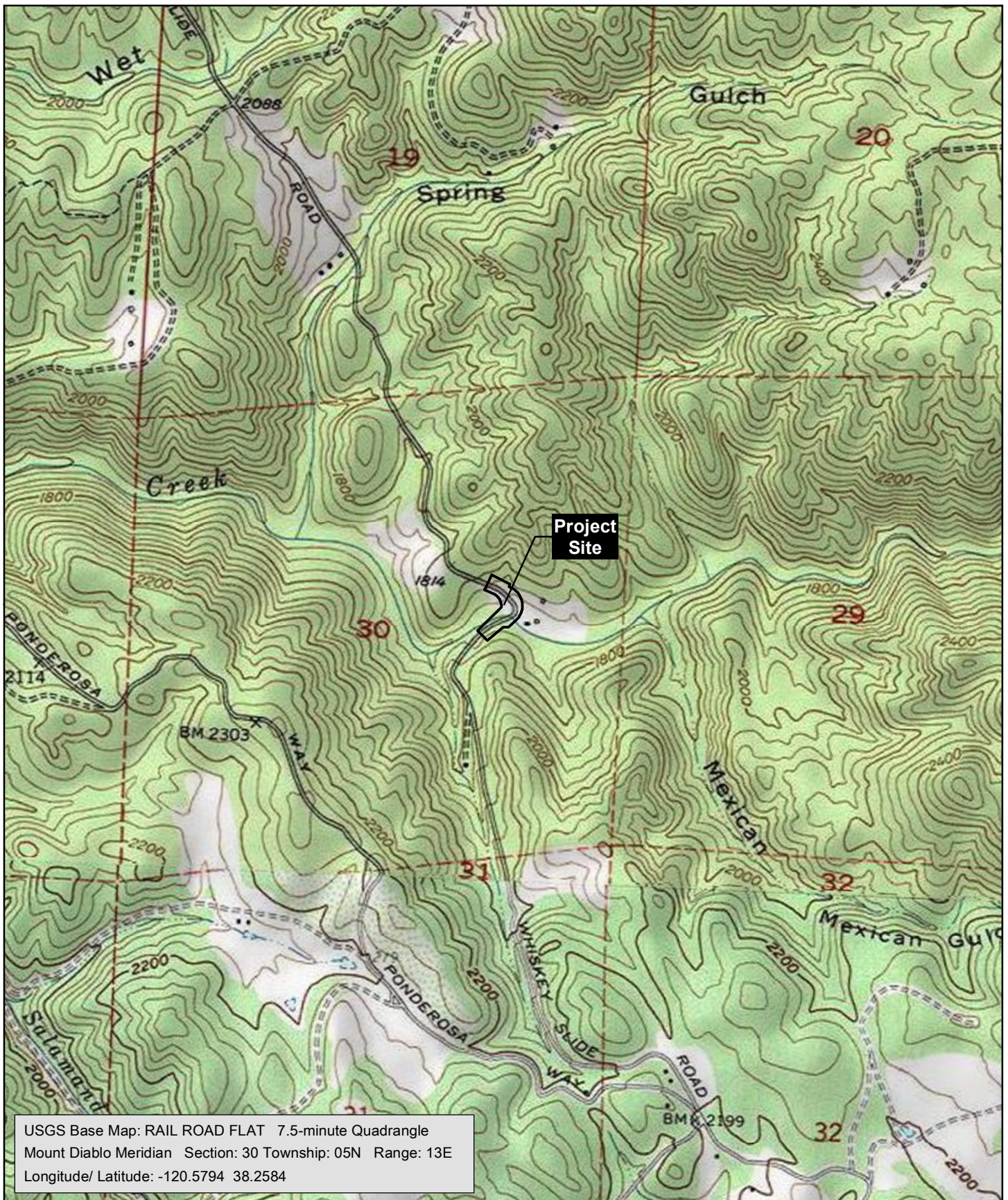
1 inch = 3 miles

0 1.5 3 6 Miles

Source: Terrain: Multi-Directional Hillshade
Map Date: April 2017

Figure 1 - Site & Vicinity

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT
Calaveras County, CA



1 inch = 1,500 feet

0 750 1,500 3,000 Feet

Source: USGS
 Map Date: May 2017

Figure 2 - Project Location, USGS Topographic Map

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
 (30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA

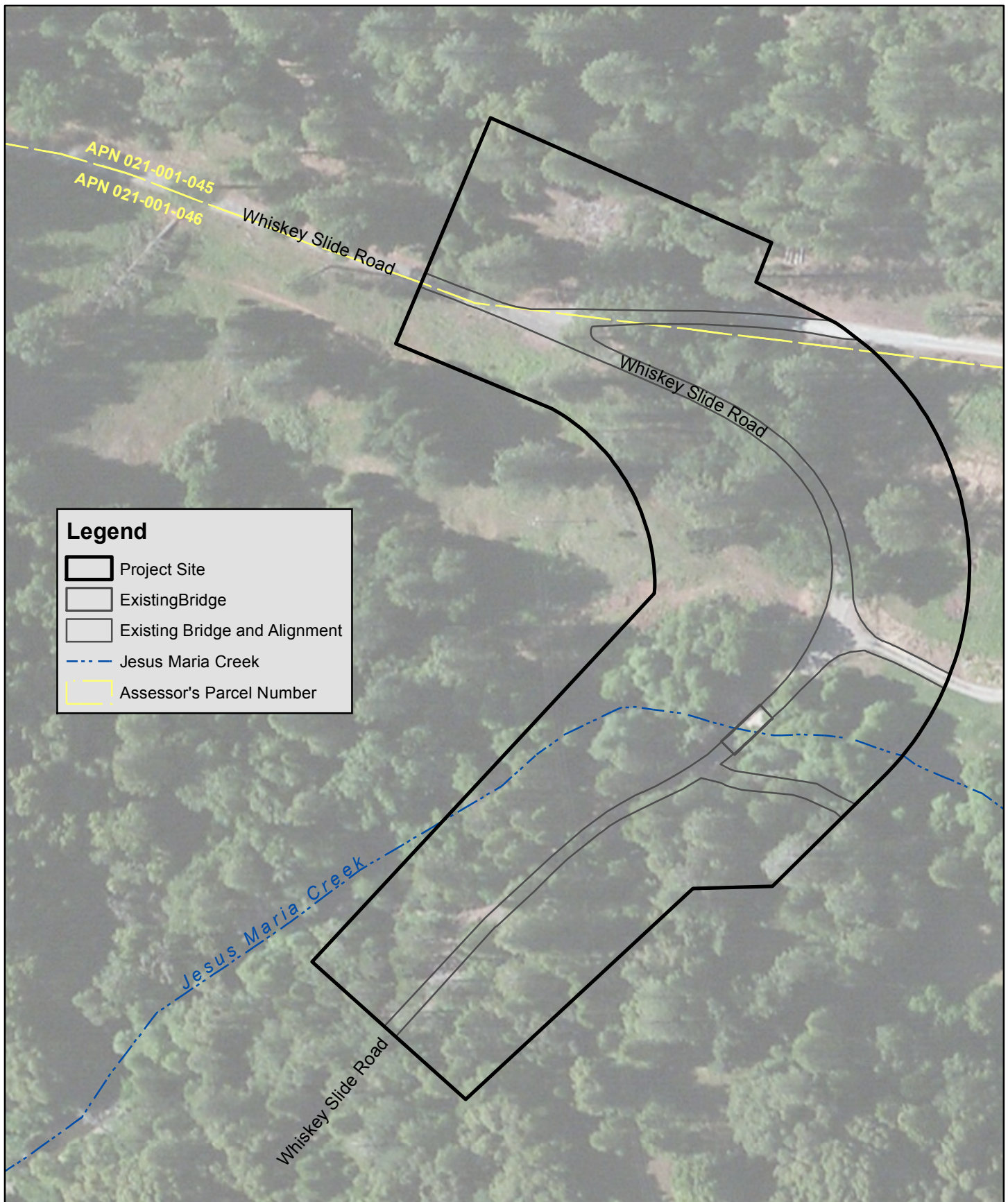


Figure 3 - Aerial Photograph

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA

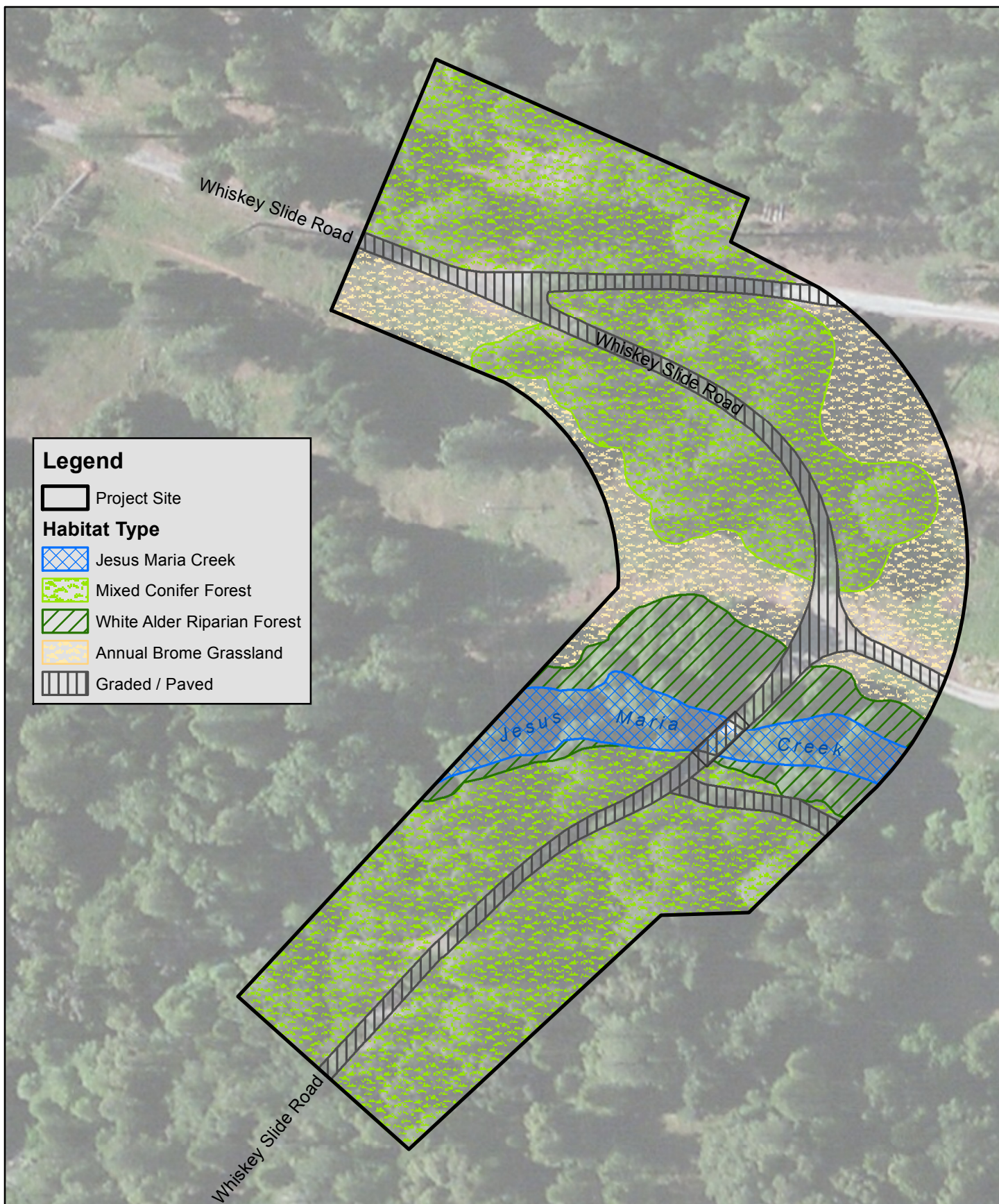


Figure 4 - Habitat Map

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA



1 inch = 90 feet

0 50 100 200 Feet

Source: ESRI World Imagery (June 19, 2014)

Map Date: May 2017



Appendix B

STATEMENT FROM PROPERTY OWNER ALLOWING ACCESS



March 7, 2016

California South Branch
Sacramento District Headquarters Office
1325 J Street, Room 1350
Sacramento, CA 95814

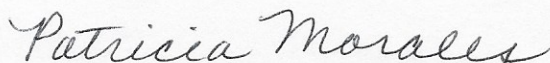
Subject: Permission to enter private property at 11052 WHISKEY SLIDE RD, MOUNTAIN RANCH, CA 95246 for the Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project, BRLO 5930(064).

To whom it may concern:

I grant permission to U.S. Army Corps of Engineers personnel to access the Whiskey Slide Road over Jesus Maria Creek Bridge Replacement Project site through my private property during normal business hours.

Please call to inform me before entering my property on each visit.

Thank you,

A handwritten signature in cursive script that reads "Patricia Morales".

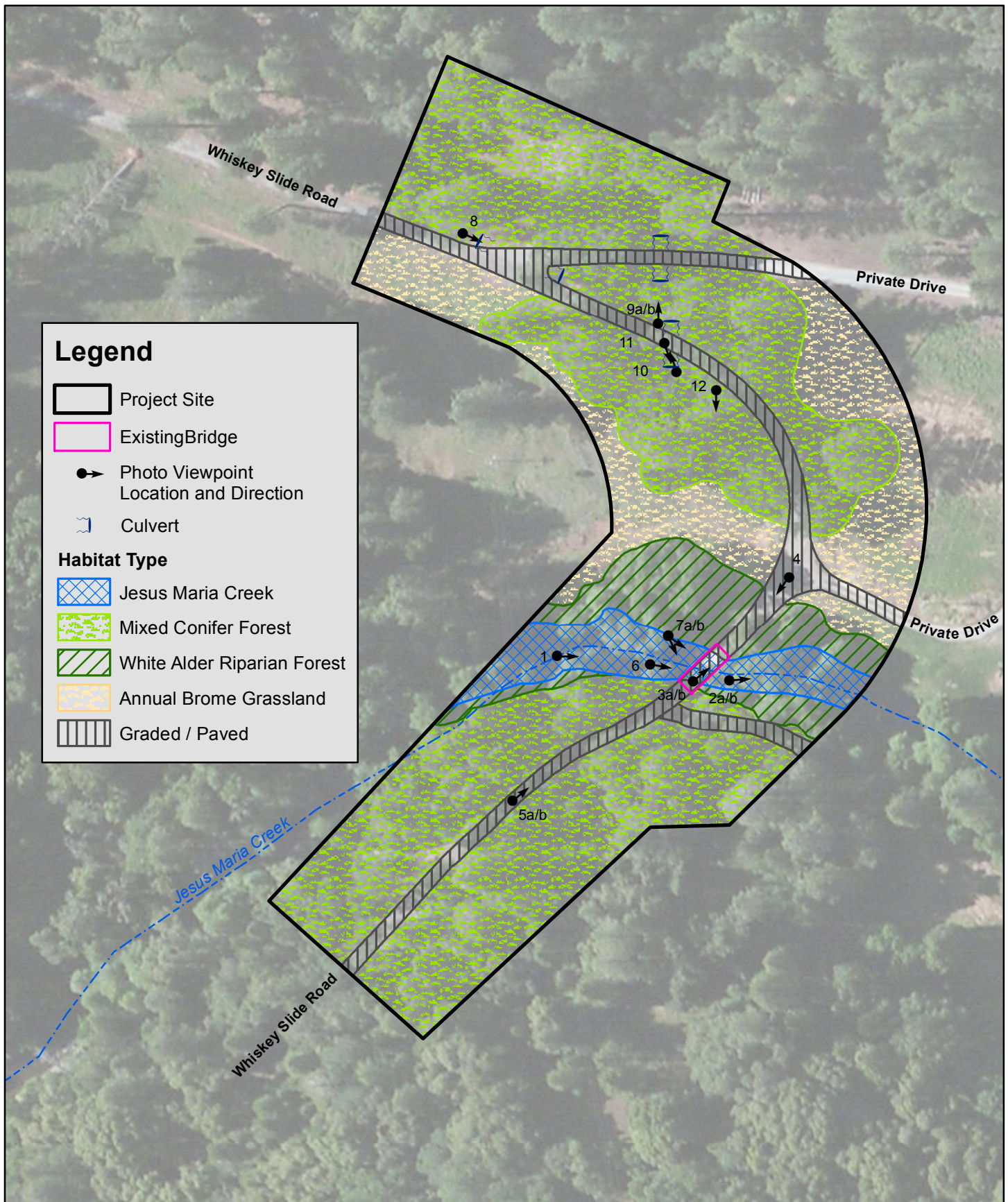
Patricia Morales
P.O Box 733
Mountain Ranch, CA 95246
(209) 754-9588
pmora46@gmail.com



Appendix C

GROUND PHOTOGRAPHS





1 inch = 100 feet

0 50 100 200 Feet

Source: ESRI World Imagery (June 19, 2014)
Map Date: May 2017

Figure C-1 - Photo Locations

WHISKEY SLIDE ROAD OVER JESUS MARIA CREEK
(30C0062) BRIDGE REPLACEMENT PROJECT

Calaveras County, CA

**Table C-1
Summary of Ground Photographs**

Photo No.	Date Taken	Coordinates (NAD 83)	Direction	Notes
1	5/23/2013	38.25806, -120.579579	east	Jesus Maria Creek, facing upstream (east) from west of the bridge (pre-fire)
2a	5/23/2013	38.25801, -120.579129	east	Jesus Maria Creek, facing upstream (east) from east of the bridge (pre-fire).
2b	11/11/2015	38.25801, -120.579129	east	Jesus Maria Creek, facing upstream (east) from east of the bridge (post-fire).
3a	5/23/2013	38.258008 -120.579223	northeast	Whiskey Slide Road, facing northeast from bridge deck (pre-fire)
3b	11/11/2015	38.258008 -120.579223	northeast	Whiskey Slide Road, facing northeast from bridge deck (post-fire)
4	5/23/2013	38.258225, -120.578973	southwest	Whiskey Slide Road, facing southwest from north of the bridge.
5a	5/23/2013	38.257762, -120.579694	northeast	Whiskey Slide Road, facing northeast from south of the bridge (pre-fire).
5b	11/11/2015	38.257762, -120.579694	northeast	Whiskey Slide Road, facing northeast from south of the bridge (post-fire).
6	5/23/2013	38.258045, -120.579335	east	View of bridge over Jesus Maria Creek, facing east from west of the bridge (pre-fire).
7a	11/11/2015	38.258103, -120.579289	southeast	View of bridge over Jesus Maria Creek, facing southeast from west of the bridge (pre-fire).
7b	11/11/2015	38.258103, -120.579289	south	View of bridge over Jesus Maria Creek, facing south from west of the bridge (post-fire).
8	5/23/2013	38.258932, -120.579825	southeast	View of culvert under private drive along ditch north of Whiskey Slide Road (pre-fire).
9a	5/23/2013	38.258747, -120.579315	north	View of culvert outlet and embankment north of the ditch north of Whiskey Slide Road (pre-fire).
9b	11/11/2015	38.258747, -120.579315	north	View of culvert outlet and embankment north of the ditch north of Whiskey Slide Road (post-fire).

continued on next page

Table C-1
Summary of Ground Photographs (cont.)

Photo No.	Date Taken	Coordinates (NAD 83)	Direction	Notes
10	11/11/2015	38.258648, -120.579266	northwest	View of erosional feature south and west of Whiskey Slide Road from approximately halfway between culvert outlet and Jesus Maria Creek (post-fire).
11	11/11/2015	38.258706, -120.5793	southeast	View of erosional feature south of Whiskey Slide Road from culvert outlet at Whiskey Slide Road (post-fire).
12	11/11/2015	38.258609, -120.579164	southwest	View of erosional feature south and west of Whiskey Slide Road from approximately halfway between culvert outlet and Jesus Maria Creek (post-fire).



Photo 1 (pre-fire). Jesus Maria Creek, facing upstream (east) from west of the bridge.
Photo date: 5/23/2013



Photo 2a (pre-fire). Jesus Maria Creek, facing upstream (east) from east of the bridge. Photo
date: 5/23/2013



Photo 2b (post-fire). Jesus Maria Creek, facing upstream (east) from east of the bridge.
Photo date: 11/11/2015



Photo 3a (pre-fire). Whiskey Slide Road, facing northeast from bridge deck. Photo
date: 5/23/2013



Photo 3b (post-fire). Whiskey Slide Road, facing northeast from bridge deck. Photo date: 11/11/2015



Photo 4 (pre-fire). Whiskey Slide Road, facing southwest from north of the bridge. Photo date: 5/23/2013



Photo 5a (pre-fire). Whiskey Slide Road, facing northeast from south of the bridge. Photo date: 5/23/2013



Photo 5b (post-fire). Whiskey Slide Road, facing northeast from south of the bridge. Photo date: 11/11/2015



Photo 6 (pre-fire). View of bridge over Jesus Maria Creek, facing east from west of the bridge. Photo date: 5/23/2013



Photo 7a (post-fire). View of bridge over Jesus Maria Creek, facing southeast from west of the bridge. Photo date 11/11/2015



Photo 7b (post-fire). View of bridge over Jesus Maria Creek, facing southeast from west of the bridge. Photo date 11/11/2015



Photo 8 (pre-fire). View of culvert inlet under private drive along ditch north of Whiskey Slide Road. Photo date: 5/23/2013



Photo 9a (pre-fire). View of culvert outlet and embankment north of the ditch north of Whiskey Slide Road. Photo date: 5/23/2013



Photo 9b (post-fire). View of culvert outlet and embankment north of the ditch north of Whiskey Slide Road. Photo date: 11/11/2015



Photo 10 (post-fire). View of culvert outlet south of Whiskey Slide Road, near where the road turns southward. Photo date: 11/11/2015

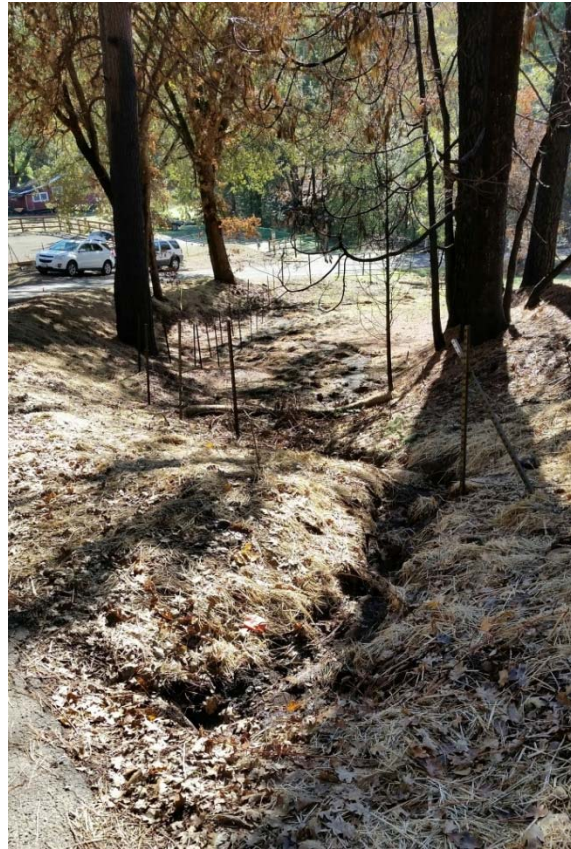


Photo 11 (post-fire). View of erosional feature south and west of Whiskey Slide Road from culvert outlet at Whiskey Slide Road. Photo date: 11/11/2015



Photo 12 (post-fire). View of erosional feature south and west of Whiskey Slide Road from approximately halfway between culvert outlet and Jesus Maria Creek. Photo date: 11/11/2015

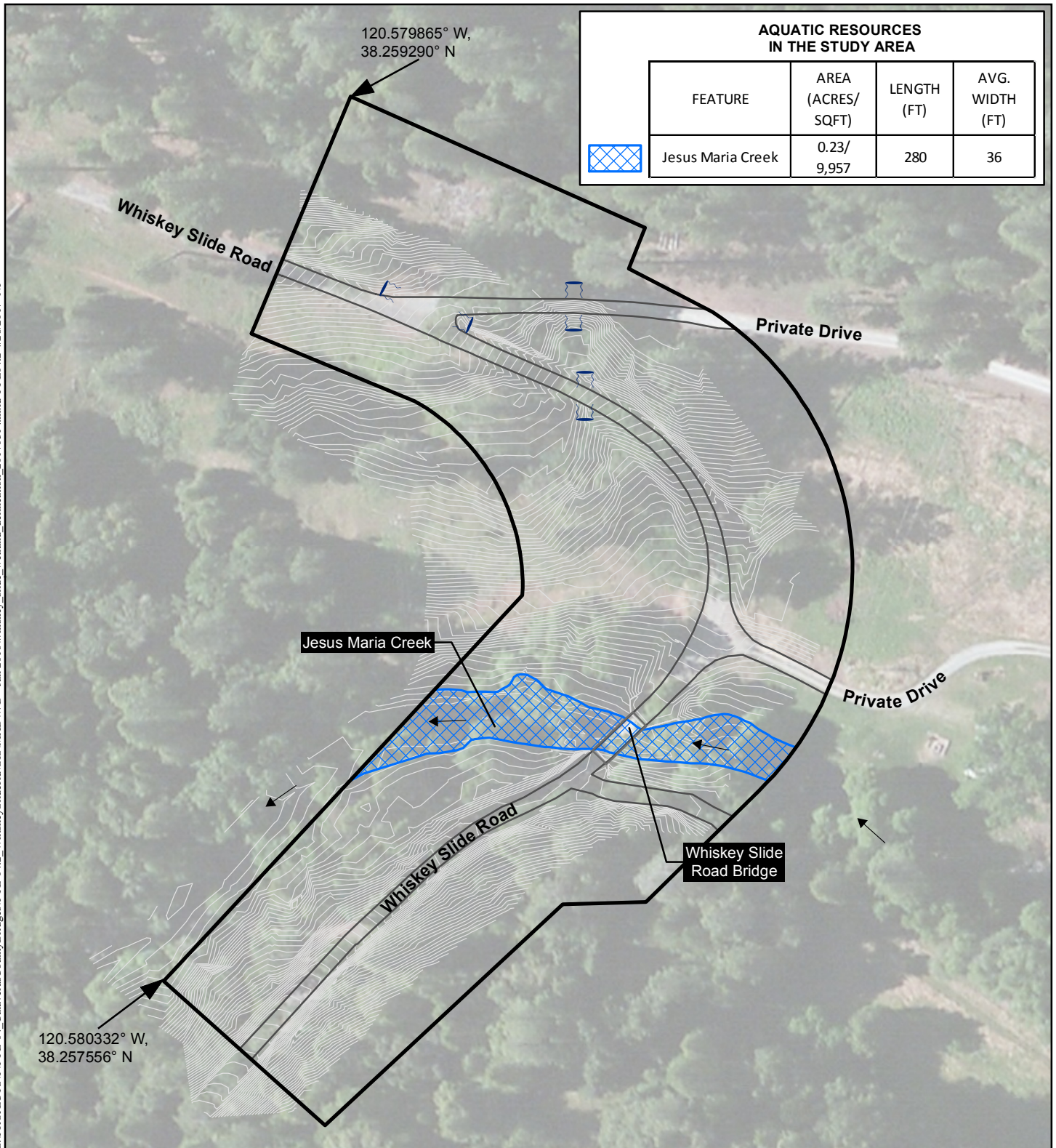


Appendix D

AQUATIC RESOURCES DELINEATION MAP



S:\PROJECTS\TYL-04_CalaverasCountyBridges\TYL-04.2_WhiskeySlideRd\GIS\MXD\WD - Jan 2016\whiskey_slide_wetland_delineation_20170314.mxd TYL04.2 4/28/2017 -NP



USACE Regulatory File #:

Verified By: TBD

Date of Verification: TBD

REVISIONS

DATE	DESCRIPTION	BY



Delineation Study Area (3.92 acres)



Direction of Flow



Culvert



0 50 100 Feet 1 inch = 100 feet

NOTES: The boundaries and jurisdictional status of all waters shown on this map are preliminary and subject to verification by the U.S. Army Corps of Engineers

SOURCE: Aerial: ESRI (June 24, 2014);
Topography: TY Lin (Sep 25, 2015)

AQUATIC RESOURCES
DELINEATION MAP

*Whiskey Slide Road Over Jesus Maria Creek
(30C0062) Bridge Replacement Project
Federal Aid Project No. BRLO 5930(064)
Calaveras County, California
May 2017*

PREPARED BY: HELIX ENVIRONMENTAL PLANNING, INC.
11 NATOMA ST. FOLSOM, CA 95630 (916) 365 - 8700

DRAWN BY: N. Pouya, M. Fremont
DELINEATORS: S. Stringer, C. Silvester
DATES OF FIELDWORK: May 23, 2013; Nov 11, 2015, July 28, 2016



Appendix E

PLANT SPECIES OBSERVED AND WETLAND INDICATOR STATUS



Table E-1 PLANT SPECIES OBSERVED AND WETLAND INDICATOR STATUS			
Family	Scientific Name	Common Name	Wetland Indicator Status
FERNS			
Dryopteridaceae	<i>Dryopteris arguta</i>	Wood fern	NI
Equisetaceae	<i>Equisetum</i> sp.	Horsetail, scouring rush	FAC/FACW
Pteridaceae	<i>Pentagramma triangularis</i>	Goldback fern	NI
Woodsiaceae	<i>Cystopteris fragilis</i>	Brittle bladder fern/ Fragile fern	FACU
GYMNOSPERMS			
Cupressaceae	<i>Calocedrus decurrens</i>	Incense cedar	NI
Pinaceae	<i>Pinus ponderosa</i>	Ponderosa pine	FACU
EUDICOTS			
Anacardiaceae	<i>Toxicodendron diversilobum</i>	Western poison oak	FACU
Apiaceae	<i>Anthriscus caucalis</i>	Bur-chervil	NI
	<i>Daucus pusillus</i>	Daucus	NI
	<i>Osmorhiza berteroi</i>	Sweet-cicely	FACU
	<i>Sanicula crassicaulis</i>	Sanicula	NI
	<i>Torilis arvensis</i>	Tall sock-destroyer	NI
Apocynaceae	<i>Asclepias cordifolia</i>	Purple milkweed	NI
Asteraceae	<i>Artemisia douglasiana</i>	Douglas' wormwood/ Mugwort	FAC
	<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian thistle	NI
	<i>Centaurea solstitialis</i>	Yellow star-thistle	NI
	<i>Erigeron philadelphicus</i> var. <i>philadelphicus</i>	Philadelphia fleabane	FACU
	<i>Hypochaeris glabra</i>	Smooth cat's-ear	NI
	<i>Lactuca serriola</i>	Prickly lettuce	FACU
	<i>Taraxacum officinale</i>	Common dandelion	FACU
Betulaceae	<i>Alnus rhombifolia</i>	White alder	FACW
Boraginaceae	<i>Myosotis discolor</i>	Changing forget-me-not	FAC
	<i>Nemophila</i> sp.	Nemophila	NI
	<i>Plagiobothrys nothofulvus</i>	Rusty popcornflower	FAC

Table E-1
PLANT SPECIES OBSERVED AND WETLAND INDICATOR STATUS (*continued*)

Family	Scientific Name	Common Name	Wetland Indicator Status
Brassicaceae	<i>Barbarea verna</i>	Early winter cress	NI
	<i>Capsella bursa-pastoris</i>	Shepherd's purse	FACU
	<i>Cardamine oligosperma</i>	Bitter-cress	FAC
	<i>Hirschfeldia incana</i>	Summer mustard	NI
	<i>Nasturtium officinale</i>	Water cress	OBL
	<i>Raphanus sativus</i>	Radish	NI
	<i>Sisymbrium officinale</i>	Hedge mustard	NI-
Caprifoliaceae	<i>Lonicera</i> sp.	Honeysuckle	NI
	<i>Symphoricarpos</i> sp.	Snowberry	NI
Caryophyllaceae	<i>Cerastium glomeratum</i>	Mouse-ear chickweed	NI
	<i>Silene gallica</i>	Small-flower catchfly	NI
Convolvulaceae	<i>Convolvulus arvensis</i>	Bindweed	NI
Datisceae	<i>Datisca glomerata</i>	Durango root	FACW
Ericaceae	<i>Arbutus menziesii</i>	Pacific madrone	NI
	<i>Arctostaphylos</i> sp.	Manzanita	NI
Euphorbiaceae	<i>Croton setigerus</i>	Turkey-mullein	NI
Fabaceae	<i>Acmispon americanus</i> var. <i>americanus</i>	Deervetch	UPL
	<i>Acmispon micranthus</i>	Deervetch	NI
	<i>Hoita macrostachya</i>	Large leather root	OBL
	<i>Melilotus</i> sp.	Sweetclover	NI
	<i>Trifolium dubium</i>	Little hop clover	UPL
	<i>Trifolium hirtum</i>	Rose clover	NI
	<i>Trifolium subterraneum</i>	Subterranean clover	NI
	<i>Vicia sativa</i>	Garden vetch	FACU
	<i>Vicia villosa</i>	Hairy vetch, winter vetch	NI
Fagaceae	<i>Notholithocarpus densiflorus</i>	Tan oak	NI
	<i>Quercus kelloggii</i>	California black oak	NI
	<i>Quercus lobata</i>	Valley oak	FACU
	<i>Quercus wislizeni</i>	Interior live oak	NI
Geraniaceae	<i>Erodium cicutarium</i>	Redstem filaree	NI
	<i>Geranium molle</i>	Cranesbill	NI

Table E-1
PLANT SPECIES OBSERVED AND WETLAND INDICATOR STATUS (*continued*)

Family	Scientific Name	Common Name	Wetland Indicator Status
Grossulariaceae	<i>Ribes</i> sp. (nodal spines present)	Gooseberry	NI
Hydrangeaceae	<i>Philadelphus lewisii</i>	Wild mock orange	NI
Hypericaceae	<i>Hypericum perforatum</i> ssp. <i>perforatum</i>	Klamathweed	NI
Juglandaceae	<i>Juglans hindsii</i>	Northern California black walnut	FAC
Lamiaceae	<i>Mentha</i> sp.	Mint	NI
	<i>Stachys</i> sp.	Hedge-nettle	NI
	<i>Marrubium vulgare</i>	Horehound	FACU
Montiaceae	<i>Calandrinia ciliata</i>	Red maids	FACU
	<i>Claytonia parviflora</i>	Claytonia	FACU
	<i>Montia fontana</i>	Water chickweed	OBL
Myrsinaceae	<i>Anagallis arvensis</i>	Scarlet pimpernel	NI
Oleaceae	<i>Fraxinus latifolia</i>	Oregon ash	FACW
Onagraceae	<i>Epilobium ciliatum</i>	Willowherb	FACW
	<i>Epilobium</i> sp.		NI
Papaveraceae	<i>Eschscholzia caespitosa</i>	Eschscholzia	NI
	<i>Eschscholzia lobbii</i>	Frying pans	NI
Phrymaceae	<i>Mimulus guttatus</i>	Monkeyflower	OBL
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	FAC
	<i>Veronica peregrina</i> ssp. <i>xalapensis</i>	Neckweed/ Purslane speedwell	FAC
	<i>Veronica persica</i>	Persian speedwell	NI
Polemoniaceae	<i>Allophyllum divaricatum</i>	Allophyllum	NI
	<i>Collomia heterophylla</i>	Variable-leaf collomia	NI
	<i>Leptosiphon bicolor</i>	Leptosiphon	UPL
Polygonaceae	<i>Persicaria</i> sp.	Smartweed	NI
	<i>Polygonum aviculare</i> ssp. <i>depressum</i>	Yard knotweed	FAC
	<i>Rumex acetosella</i>	Sheep sorrel	FACU
	<i>Rumex conglomeratus</i>	Dock	FACW
	<i>Rumex crispus</i>	Curly dock	FAC
	<i>Rumex pulcher</i>	Fiddle dock	FAC

Table E-1
PLANT SPECIES OBSERVED AND WETLAND INDICATOR STATUS (*continued*)

Family	Scientific Name	Common Name	Wetland Indicator Status
Ranunculaceae	<i>Ranunculus muricatus</i>	Buttercup	NI
	<i>Clematis</i> sp.	Virgin's bower	NI
Rosaceae	<i>Heteromeles arbutifolia</i>	Toyon	NI
	<i>Rosa</i> sp.	Rose	NI
	<i>Rubus armeniacus</i>	Himalayan blackberry	FAC
Rubiaceae	<i>Galium aparine</i>	Sticky-Willy/ Goose grass	FACU
	<i>Galium divaricatum</i>	Lamarck's bedstraw	FACU
	<i>Galium parisiense</i>	Wall bedstraw	UPL
Salicaceae	<i>Salix laevigata</i>	Red willow	FACW
Sapindaceae	<i>Acer macrophyllum</i>	Big-leaf maple	FAC
	<i>Aesculus californica</i>	California buckeye	NI
Saxifragaceae	<i>Darmera peltata</i>	Umbrella plant	OBL
Scrophulariaceae	<i>Verbascum blattaria</i>	Moth mullein	UPL
	<i>Verbascum thapsus</i>	Woolly mullein	FACU
Valerianaceae	<i>Valerianella locusta</i>	Corn salad	NI
Zygophyllaceae	<i>Tribulus terrestris</i>	Puncture vine	NI
MONOCOTS			
Cyperaceae	<i>Carex nudata</i>	Torrent sedge	FACW
	<i>Carex subfusca</i>	Pale broomsedge	FAC
	<i>Eleocharis macrostachya</i>	Spikerush	NI
Iridaceae	<i>Iris</i> sp.	Iris	NI
Juncaceae	<i>Juncus balticus</i> ssp. <i>ater</i>	Baltic rush	FACW
	<i>Juncus bufonius</i>	Toad rush	FACW
	<i>Juncus tenuis</i>	Slender rush	FACW
	<i>Luzula comosa</i> var. <i>laxa</i>	Hairy wood rush	FAC
Liliaceae	<i>Calochortus albus</i>	White globe lily	NI
Poaceae	<i>Agrostis capillaris</i>	Colonial bent	FAC
	<i>Aira caryophyllea</i>	Silver hair grass	FACU
	<i>Avena barbata</i>	Slender wild oat	--
	<i>Briza minor</i>	Small quaking grass	FAC
	<i>Bromus diandrus</i>	Ripgut grass	NI
	<i>Bromus hordeaceus</i>	Soft chess	FACU
	<i>Bromus sterilis</i>	Poverty brome	NI

Table E-1
PLANT SPECIES OBSERVED AND WETLAND INDICATOR STATUS (*continued*)

Family	Family	Family	Family
Poaceae (cont.)	<i>Cynosurus echinatus</i>	Bristly dogtail grass	NI
	<i>Deschampsia elongata</i>	Slender hair grass	FACW
	<i>Elymus glaucus</i>	Blue or western wild-rye	FACU
	<i>Festuca arundinacea</i>	Tall fescue	NI
	<i>Festuca bromoides</i>	Brome fescue	NI
	<i>Festuca myuros</i>	Rattail sixweeks grass	NI
	<i>Festuca perennis</i>	Rye grass	NI
	<i>Holcus</i> sp.	Velvet grass	NI
	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Hare barley	FACU
	<i>Paspalum dilatatum</i>	Dallis grass	FAC
	<i>Phalaris aquatica</i>	Harding grass	FACU
	<i>Phalaris paradoxa</i>	Hood canary grass	FAC
	<i>Poa annua</i>	Annual blue grass	FAC
	<i>Poa bulbosa</i>	Blue grass	FACU
	<i>Poa trivialis</i>	Rough blue grass	FACW
Themidaceae	<i>Brodiaea elegans</i> ssp. <i>elegans</i>	Harvest brodiaea	FACU

Source: Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *Arid West 2016 Regional Wetland Plant List* from the *The National Wetland Plant List: 2016 Update of Wetland Ratings*. Phytoneuron 2016-30: 1-17.

Published April 2016.

Wetland Indicator Status:

OBL = obligate; occurs in aquatic resources more than 99 percent of the time

FACW = facultative wetland; occurs in aquatic resources 67 – 99 percent of the time

FAC = facultative; occurs in aquatic resources 34 – 66 percent of the time

FACU = facultative upland; occurs in aquatic resources 1 – 33 percent of the time

UPL = upland; occurs in uplands more than 99 percent of the time

NI = no indicator; indicator status not known in this region



Appendix F

AQUATIC RESOURCE EXCEL SPREADSHEET

(provided separately as an Excel file)

