Biological Assessment

Newtown Road at South Fork Weber Creek Bridge Replacement Project
El Dorado County, CA
District 3—El Dorado County—Newtown Road

BRLS 5925 (086)
FWS File #08ESMF00-2017-E-01693

February 2018

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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STATE OF CALIFORNIA
Department of Transportation

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Table of Contents

List of Figures

List of Tables

Acronym List

AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
BA	Biological Assessment
BMP	Best Management Practice
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CMPA	Corrugated Metal Pipe Arch
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
DPS	Distinct Population Segment
eDNA	Environmental deoxyribonucleic acid
EFH	Essential Fish Habitat
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	foot/feet
IBA	Important Bird Area
IBC	Important Biological Corridor
NES	Natural Environment Study
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetland Inventory
OHWM	ordinary high water mark
quad	USGS topographic quadrangle
RSP	Rock slope protection
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
XPI	Extended Phase I

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Executive Summary

The purpose of this Biological Assessment (BA) is to provide technical information and to review the proposed Project in sufficient detail to determine to what extent the proposed Project may affect threatened, endangered, or proposed species. The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this BA under its assumption of responsibility at 23 United States Code (USC) 327(a)(2)(A). The BA is also prepared in accordance with 50 CFR 402, legal requirements found in Section 7 (a)(2) of the Endangered Species Act (16 U.S.C. 1536(c)) and with FHWA and Caltrans regulation, policy and guidance. The document presents technical information upon which later decisions regarding project effects are developed.

El Dorado County Department of Transportation, in conjunction with Caltrans and FHWA, intends to replace the existing Newtown Road bridge over South Fork Weber Creek. The Project is located approximately 2 miles south of the community of Camino in the western foothills of the Sierra Nevada in unincorporated El Dorado County. The existing bridge, constructed in 1929, has a sufficiency rating of 80.2. The curb-to-curb width of 26.9 feet is less than the minimum of 40 feet based on the Average Daily Traffic (ADT) of approximately 2,700. In addition, the existing bridge does not provide adequate freeboard to pass 50 and 100 year floods according to American Association of State Highway and Transportation Officials (AASHTO) guidelines. The Action Area for the Project occupies 5.752 acres.

The general purpose and need of this Project is to replace the existing bridge and widen the road approaches to improve public safety and be consistent with AASHTO guidelines. Retrofitting the bridge was rejected because 1) retrofitting would not correct the problematic existing approach geometry and sub-standard bridge width, 2) the hybrid structure of a part slab deck and part corrugated metal pipe is a poor candidate for long-term maintenance, and 3) the existing structure creates upstream backwater conditions above a 10-year flow event. The County recommends the bridge be replaced.

Two bridge replacement designs are under consideration: a precast open bottom arch structure (Alternative 1) or a cast-in-place post-tensioned box girder bridge (Alternative 2). Alternative 1 is the preferred design option due to fewer environmental impacts.

The Natural Environment Study (NES) evaluated the potential for federal-threatened California red-legged frog (CRLF; *Rana draytonii*) to occur in the Action Area. A known population of CRLF occurs in Spivey Pond in the Weber Creek watershed approximately 5 miles northeast of the Action Area. The Project does not occur within designated critical habitat for any federal-listed species. The BA concludes that the Project may affect, but is not likely to adversely affect CRLF.

No other federal listed species, or species proposed for listing, have the potential to occur in the Action Area. No critical habitat occurs in the Action Area.

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Chapter 1. Introduction

1.1. Purpose and Need of the Proposed Action

The El Dorado County Department of Transportation, in conjunction with Caltrans and the FHWA intends to replace the existing Newtown Road bridge (25C0033) over South Fork Weber Creek. The County intends to replace this bridge with a wider, longer bridge on a similar alignment. The proposed replacement bridge would improve driver safety and be consistent with AASHTO guidelines.

The bridge has a Caltrans sufficiency rating of 80.2. The curb-to-curb width of 26.9 feet is less than the minimum of 40 feet based on the ADT of approximately 2,700. In addition, the existing bridge does not provide adequate freeboard to pass 50 and 100 year floods according to AASHTO guidelines. There are five existing tight horizontal curves within the proposed Project limits, from 400 feet south to 400 feet north of the existing bridge. These horizontal curves may be responsible for several accidents observed by local residents and one accident recorded by the California Highway Patrol.

Retrofitting the bridge was rejected because 1) retrofitting would not correct the problematic existing approach geometry and sub-standard bridge width, 2) the hybrid structure of a part slab deck and part corrugated metal pipe is a poor candidate for long-term maintenance, and 3) the existing structure creates upstream backwater conditions above a 10-year flow event. The County recommends the bridge be replaced.

The purpose of the proposed action is to:

- Remove the existing bridge, which has been determined functionally obsolete and does not comply with several AASHTO standards;
- Construct a new, wider, longer bridge over South Fork Weber Creek to satisfy current design standards, improve driver safety, improve hydraulics, and be consistent with AASHTO guidelines; and
- Widen and improve the approach roadway east and west of the Newtown Road Bridge.

1.2. Threatened, Endangered, Proposed Threatened or Proposed Endangered Species, Critical Habitat

A species list was provided by U.S. Fish and Wildlife Service (USFWS) for the Action Area of this Project (see Appendix A). The National Marine Fisheries Service (NMFS) database was reviewed for listed fish species with potential to occur in the Action Area (see Appendix B). The California Natural Diversity Database (CNDDB) was queried for known occurrences of federally listed species on the Camino Quad and eight surrounding quads (see Appendix C). The California Native Plant Society (CNPS) inventory of rare and endangered plants was queried for known occurrences of federally listed plants in or near the Action Area (see Appendix D). The following listed and

proposed species and/or designated critical habitats were identified on the USFWS list, NMFS list, CNDDB list, and CNPS list and were considered during this analysis.

The proposed Project may affect, but is not likely to adversely affect:

- California red-legged frog (CRLF; *Rana draytonii*) T

No Effect to the following federally listed species would occur because it was determined that the Action Area contained no suitable habitat or the Project is outside of the range of these species (Table 1):

- Delta smelt (*Hypomesus transpacificus*) T
- Northern California steelhead DPS (*Oncorhynchus mykiss*) T
- Sierra Nevada yellow-legged frog (*Rana sierrae*) E

Table 1. Threatened, Endangered, Proposed Threatened or Proposed Endangered Species, and Critical Habitat with Potential to Occur in the Action Area

Common Name	Scientific Name	Status[1]	Determination
Fish			
Delta smelt	*Hypomesus transpacificus*	FT	No Effect. There is no suitable habitat for this species in the Action Area. The Action Area is outside the range.
Northern California steelhead DPS	*Oncorhynchus mykiss*	FT	No Effect. The Action Area is inaccessible to anadromous fish because it is upstream of Nimbus Dam, a fish passage barrier.
Amphibians			
California red-legged frog	*Rana draytonii*	FT	May Affect, but is Not Likely to Adversely Affect. There is no suitable breeding habitat in the Action Area. Recent surveys for CRLF suggest that the species is unlikely to occur in the Action Area.
Sierra Nevada yellow-legged frog	*Rana sierrae*	FE	No Effect. There is no suitable habitat for this species in the Action Area. The Action Area is outside the range for this species.
Critical Habitat/Essential Fish Habitat			
Delta smelt	*Hypomesus transpacificus*	--	No Effect. There is no critical habitat designated within the Action Area.
Northern California steelhead DPS	*Oncorhynchus mykiss*	--	No Effect. There is no critical habitat designated within the Action Area.
California red-legged frog	*Rana draytonii*	--	No Effect. There is no critical habitat designated within the Action Area.
Sierra Nevada yellow-legged frog	*Rana sierra*	--	No Effect. There is no critical habitat designated within the Action Area.

Common Name	Scientific Name	Status[1]	Determination
Chinook salmon Essential Fish Habitat (EFH)		--	No Effect. The Action Area occurs outside designated EFH for Pacific salmon. The Nimbus Dam on the American River, downstream of the Action Area, is the upstream limit of EFH.

[1] Status: Federal Endangered (FE); Federal Threatened (FT); Proposed Endangered (PE); Proposed Threatened (PT); status does not apply (--).

1.3. Consultation History

No FESA consultation has occurred to date. As the designated federal lead agency, Caltrans will initiate the Section 7 consultation.

An official letter and list were obtained from the USFWS, Sacramento Field Office on 18 September 2011, and updated on 14 November 2017 (Appendix A). The list identifies federal-listed, candidate, or proposed species that potentially occur in, or could be affected by, the Project.

An official species list was obtained from the NMFS on 24 February 2017 (Appendix B). The list identifies federal-listed species, critical habitat, and EFH that potentially occur in, or could be affected by, the projects on the Camino quad.

Between December 2016 and mid-February 2017, the County and Sycamore Environmental provided Jennifer Osmondson, a biologist with Caltrans, information regarding past and proposed cultural investigations for the Project (described in Section 1.4.1).

On 12 January 2017, Jennifer Osmondson notified Richard Kuyper, Sierra/Cascades Division Chief, USFWS, of past and proposed cultural investigations for the Project. Richard Kuyper assigned technical assistance responsibilities to Rebecca Kirby, Biologist, USFWS.

Rebecca Kirby provided technical assistance to Jennifer Osmondson on 26 and 30 January 2017 and 15 and 21 February 2017. On 15 February 2017, Rebecca Kirby informed Jennifer Osmondson that proposed cultural investigations may proceed without initiating consultation. On 21 February 2017, Rebecca Kirby provided Caltrans notice to proceed with cultural investigations, provided that Caltrans commit to select avoidance and minimization measures for CRLF during the cultural investigations.

On 23 August 2017, Ian Vogel, USFWS Biologist, representatives from the Corps of Engineers and El Dorado County, Jessica Orsolini, Sycamore Environmental Biologist, and Jeff Little, Sycamore Environmental Vice President, conducted field visits to multiple storm damage projects throughout El Dorado County, including a brief visit to the Project Action Area. CRLF habitat and potential project-related impacts to CRLF were discussed.

USFWS permit coordination between Sycamore Environmental and Ian Vogel, USFWS biologist, for the Fort Jim Sinkhole Repair Project occurred in September 2017. On 7 and 21 September, Ian

Vogel provided information related to environmental deoxyribonucleic acid (eDNA) surveys conducted along Weber Creek and North Fork Weber Creek in 2017. The Fort Jim Sinkhole Repair Project is located on South Fork Weber Creek, approximately 2 miles downstream of the Action Area.

1.4. Description of the Proposed Action

1.4.1. Project Summary

The El Dorado County Department of Transportation, in conjunction with Caltrans and FHWA, intends to replace the existing Newtown Road bridge over South Fork Weber Creek. The existing Newtown Road bridge is a 26.9-ft wide, 26.9-ft long, single span reinforced concrete slab on concrete abutments. The existing bridge has a span of approximately 26.9 feet. In 1950, the east face of the original structure was removed and the bridge was widened upstream with a 10.7-ft by 7.5-ft corrugated metal pipe arch (CMPA) culvert. The work included the construction of a headwall on the upstream side of the bridge to secure the CMPA to the bridge structure. The west face of the bridge structure still retains its original concrete railing and wingwalls. There is no concrete railing or metal beam guardrail on the east side of the existing structure.

Alternatives Considered

El Dorado County considered several bridge replacement designs that would have varying levels of impacts to South Fork Weber Creek, adjacent parcels, and adjacent biological communities (Figures 3A and 3B).

No Bridge: The County could choose to not replace the existing bridge. The existing bridge would remain untouched and would not comply with current design codes.

Bridge Retrofit: The County evaluated whether a retrofit was feasible from an engineering and cost perspective. A retrofit was determined infeasible because 1) a retrofit would not correct the problematic existing approach geometry and sub-standard bridge width, 2) the hybrid structure of a part slab deck and part corrugated metal pipe is a poor candidate for long-term maintenance, and 3) the existing structure creates upstream backwater conditions above a 10-year flow event. Retrofitting would not correct the inadequate hydraulic conditions at the bridge.

Bridge Replacement: El Dorado County is considering two replacement alternatives. The County will consider the relative environmental impacts and mitigation costs, along with other factors, in its decision to identify a preferred alternative. The County is comparing a pre-cast, open bottom arch culvert on spread footings with a post-tensioned box girder bridge.

The County will retain a road alignment that is similar to the existing alignment while balancing other factors such as bridge length, retaining walls, length of creek realignment, right-of-way acquisition, construction duration, and construction costs. The existing Newtown Road crosses South Fork Weber Creek on a tight skew. The new alignment will realign up to a 330 foot length of South Fork Weber Creek

New Bridge Designs

Alternative 1: Alternative 1 is a Conspan precast arch option. It is the cheapest and simplest option. Alternative 1 would result in fewer impacts to natural communities of special concern, including South Fork Weber Creek and its riparian corridor. Alternative 1 would require less rock slope protection (RSP), including the amount placed below the ordinary high water mark (OHWM) of South Fork Weber Creek. In addition, this design would not require falsework; foundation construction is simple and straightforward; it would take less time to construct; it would better facilitate emergency vehicle traffic through staged construction; and it would reduce maintenance following storm events.

Based on preliminary design drawings (dated 11 July 2013), Alternative 1 is a Conspan precast arch bridge supported on spread footings. The structure would be approximately 180 feet long, approximately 7 feet tall, and would have an approximately 28-ft span. The bridge would accommodate two-way traffic consisting of 12-ft wide lanes and 4-ft wide road shoulders with Midwest Guardrail System guardrails. This design would require installation of three wing walls and one retaining wall of varying heights and lengths. Wing walls (approximately 34.6, 46, and 52 feet in length) would extend beyond the southwest, northwest, and northeast edges of the Conspan. A separate retaining wall (approximately 70 feet in length) would be installed along the south side of the east road approach that would terminate at the southeast edge of the Conspan.

Under the Alternative 1 design, road approach improvements on Newtown Road would extend approximately 160 to 170 linear feet east and west of the bridge. The Newtown Road roadway profile grade would be raised approximately 2 to 4 feet to accommodate the top slab and the proposed 1.2-ft deep roadway structural section. The bridge would not impact the existing 100-year flood limits downstream of the bridge nor impact the residence downstream of the bridge. Dimensions of this bridge structure would allow for a 100-year event with 1-ft freeboard to the proposed roadway finished grade and a 3-ft freeboard with a 50-year event.

The Conspan would be installed at approximately the same location as the existing bridge, but at an angle slightly more perpendicular to Newtown Road. The proposed skew of this bridge design would result in a lengthy Conspan structure. The arch culvert would clear span the OHWM of South Fork Weber Creek. Bridge replacement would require realignment of approximately 360 feet of South Fork Weber Creek and 40 feet of a small unnamed perennial channel. Rock slope protection (RSP) would be placed below the OWHM of South Fork Weber Creek in the Action Area. The RSP would be placed below the bottomless arch culvert and extend approximately 110 feet east and 60 feet west of the longitudinal extent of the culvert. RSP would be installed to a depth of approximately 2 feet.

Alternative 2: Alternative 2 requires less permanent ROW acquisition than Alternative 1. Alternative 2 would require falsework, a longer construction timeline, presents constructability challenges, and would be costlier than Alternative 1.

Based on preliminary design drawings (dated 14 January 2015), Alternative 2 is a cast-in-place post-tensioned box girder structure supported on spread footings. This structure would be

approximately 90 feet long and have a clear width of approximately 35.6 feet. The bridge would accommodate two-way traffic with 12-ft wide lanes and 4-ft wide road shoulders. Barrier rails would be installed along each side of the new bridge. A total of five retaining walls (approximately 20, 30, 100, 110, and 120 feet in length) would be installed along the north and south sides of both road approaches, and the south side of the gravel driveway entrance located southeast of the existing bridge.

Under the Alternative 2 design, road approach improvements on Newtown Road would extend approximately 220 feet from either side of the bridge. The Newtown Road roadway profile grade would be raised to provide adequate freeboard for 50-year and 100-year events.

Bridge replacement would require realignment of approximately 260 feet of South Fork Weber Creek to match the alignment of the new bridge. RSP would be installed above and below the OHWM of South Fork Weber Creek. RSP would be installed below the new bridge and extend approximately 140 feet west and 160 feet east of the new bridge. The RSP would be keyed into both banks below the bridge up to each abutment and along the banks of South Fork Weber Creek. RSP would be installed to a depth of approximately 2 feet.

Coordination with Cultural Resource Investigations

Cultural resource investigations at the Project site were conducted along with biological studies beginning in 2012. Below is a description of the preliminary cultural resource investigations completed at the Project site.

Archaeological surveys of the Action Area were conducted by a Tremaine and Associates' archaeologist on 10 July 2012 and 7 March 2013. Based on the results of the 2012 survey, Caltrans requested some vegetation clearing to provide access to areas not accessible during the 2012 survey. Pathways approximately 3 feet wide and 20 feet apart were cleared through a 10,000-ft^2 area of Himalayan blackberry. Vegetation clearing occurred roughly 100 feet northeast of the existing bridge, primarily on the east side of an unnamed perennial creek. Chain saws were used to cut down the blackberries; cut pieces were then removed by hand and with rakes. Vegetation removal activities were conducted by California Conservation Corps. A biologist (Jessica Orsolini, Sycamore Environmental) conducted environmental awareness training and monitored vegetation removal activities.

The 2012 and 2013 surveys triggered the need for subsurface testing. Caltrans reviewed and approved an Extended Phase I (XPI) investigation with shovel test pits excavation. In January 2016, vegetation was removed in the same locations as in 2013 to clear the blackberries for the shovel test pits. An approximately 4,100-ft^2 area of Himalayan blackberry was cleared northeast of the bridge using hand tools. Ten shovel test pits were then delineated by an archeologist; eight test pits were located in the cleared area northeast of the bridge and two pits were located in a yard southwest of the bridge. The archeologist scraped surface duff around each test pit to form a scraped circular area with a 1.6-ft radius. Vegetation removal activities were conducted by a County work crew under the direct supervision of the archaeologist. A biologist (Mike Bower,

Sycamore Environmental) was onsite to provide environmental awareness training and monitor vegetation removal activities.

The shovel-test pits demonstrated the need for deeper trenching north of the existing bridge. Tremaine and Associates used a backhoe to trench this location between 13 and 16 June 2016. Ten trenches approximately 2 feet wide and 4 to 5 feet deep were excavated with a rubber tire backhoe. Trenches were backfilled after the spoils and trenches were examined. This work cleared the excavation limits of Alternative 1. No vegetation clearing occurred during this time.

While the backhoe testing cleared the excavation limits of Alternative 1, some additional deeper trenching was needed to cover the excavation footprint of Alternative 2. Prior to approving the work plan, Caltrans informally consulted with USFWS to ensure that the cultural testing would not result in take of California red-legged frog (CRLF). The avoidance and minimization measures developed jointly by USFWS, Caltrans, and El Dorado County were incorporated into the cultural testing work plan. The final two trenches were excavated with a backhoe on 26 and 27 June 2017. A biologist (Allie Sennett, Sycamore Environmental) was onsite to provide environmental awareness training and monitor vegetation removal activities. No CRLF were observed during any of the biological or cultural surveys between 2012 and 2017. Aquatic features in the Action Area were avoided during these activities.

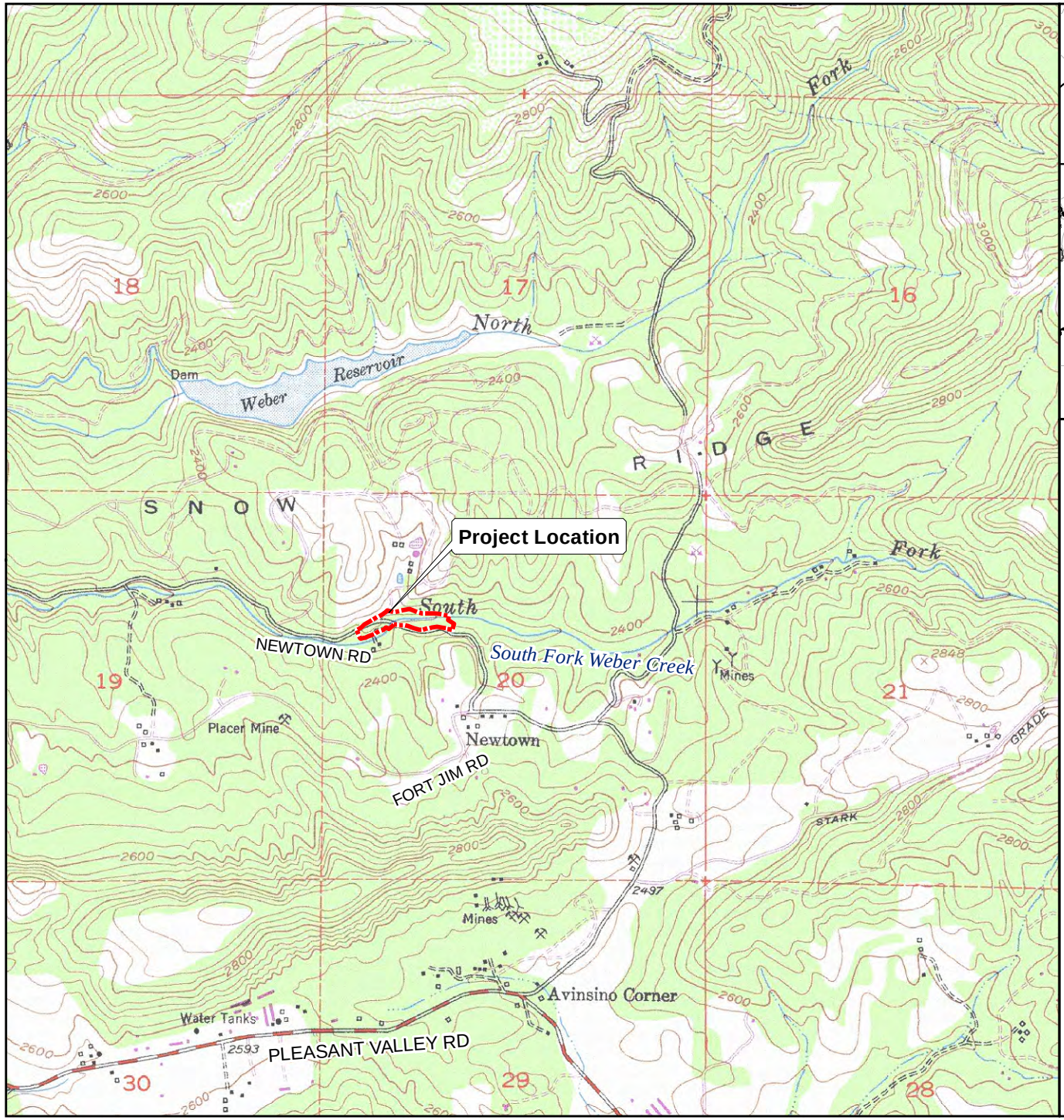
1.4.2. Authorities and Discretion

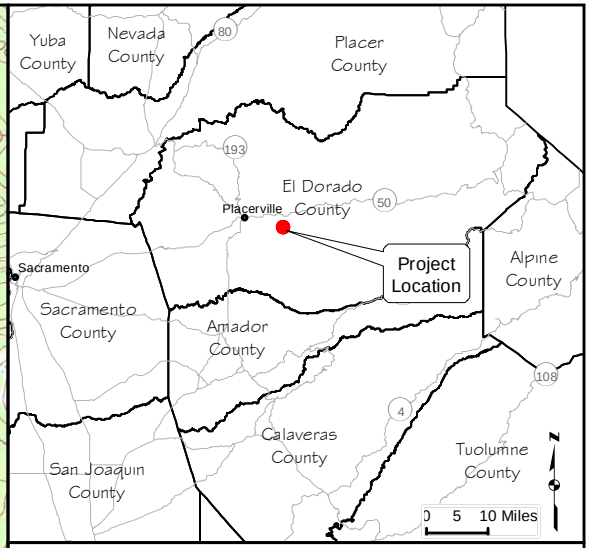
The Project is funded with Highway Bridge Program (HBP) funds. Project documentation has been prepared in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). As part of its NEPA assignment of federal responsibilities by the Federal Highways Administration (FHWA), effective October 1, 2012 and pursuant to 23 USC 326, Caltrans is acting as the lead federal agency for Section 7 of the Federal Endangered Species Act (FESA). Caltrans is responsible to comply with NEPA, Executive Orders, and other federal laws, such as FESA and the National Historic Preservation Act (NHPA) prior to the release of federal funds. The Local Assistance Procedures Manual (LAPM; Caltrans 2016a) and Caltrans' on-line Standard Environmental Reference (SER) describe the procedures for preparing technical studies and environmental documentation. In addition, permits, approvals, and concurrences related to biological resource issues will be required from the following agencies:

- U.S. Army Corps of Engineers – Clean Water Act, Section 404.
- California Department of Fish and Wildlife – Fish and Game Code Section 1600-1602 Streambed Alteration Agreement.
- Regional Water Quality Control Board – Clean Water Act, Section 401 Water Quality Certification.
- State Water Resources Control Board Construction General Permit – National Pollutant Discharge Elimination System (NPDES) Permit
- U.S. Fish and Wildlife Service -- Federal Endangered Species Act, Section 7, Letter of Concurrence (CRLF).

1.4.3. Project Location

The Newtown Road Bridge is located approximately 2 air miles south of the community of Camino in unincorporated El Dorado County. The Project is located on the Camino USGS topographic quad (T10N, R12E, Section 20, Mt. Diablo Base and Meridian; Figure 1) and is in the South Fork American Watershed (hydrologic unit code 18020129). The centroid of the Action Area is located at 38.759468° north, 120.492233° west (WGS84), and its UTM coordinates are 717,900 m East; 4,293,070 m North (Zone 10 North, WGS84). Elevation in the Action Area ranges from approximately 2,270 to 2,355 feet above sea level. Figure 2 is an aerial photograph of the Project and surrounding area. Photographs of the Action Area are in Appendix E.





Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 1. Project Location Map

Project Location

2,000 1,000 0 2,000 Feet

N

Scale: 1 inch = 2,000 feet

Camino, CA (Photorevised 1973)
CASIL California USGS Digital Raster Graphics (DRG),
7.5 Minute (C) Series, Albers Nad83 Mosaics (MrSID)
o_nw0102.sid

10066NewtownRd@SouthForkWeberCk_Fig1LocationMap.mxd

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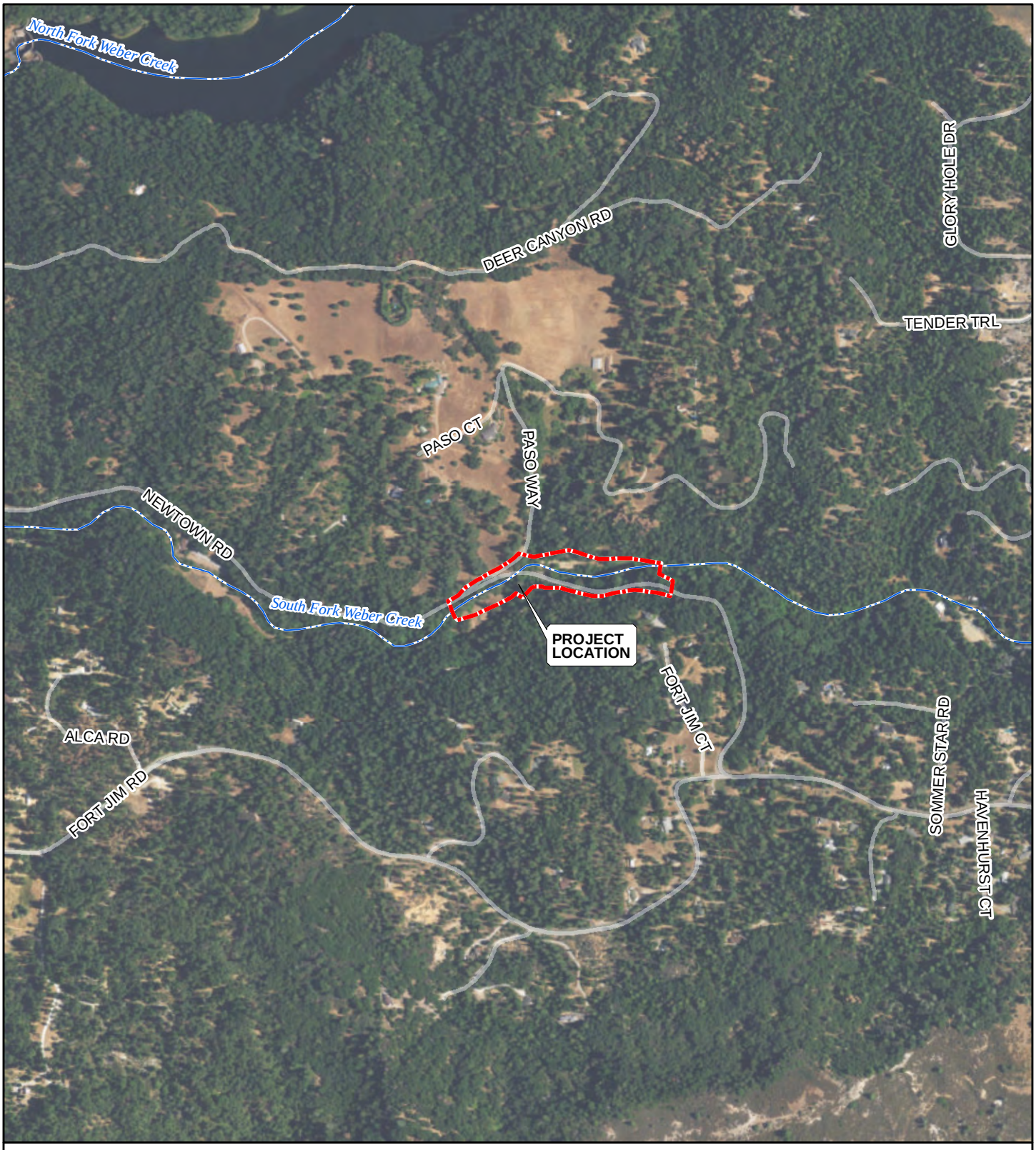

Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 2. Aerial Photograph

Project Location

800 400 0 800 Feet

N

Scale: 1 inch = 800 feet

Aerial Photograph: 11 July 2016
2016 NAIP Imagery, USDA FSA Imagery
ArcGIS Imagery Basemap Layer

El Dorado County GIS Roads layer

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1.4.4. Action Area

For the purposes of this BA, the construction footprint (project impact area, PIA) includes all areas where direct Project effects may occur. The "Action Area" (See Figures 3A and 3B) refers to a larger area that includes the construction footprint as well as surrounding areas potentially affected by the bridge replacement, associated improvements to roads, bridge approaches, utility relocation, and potential staging areas as indicated in Project designs included in the 2015 Technical Memorandum prepared by Drake Haglan and Associates. The Action Area is defined as all areas that could potentially be impacted by the Project, including temporary and permanent impacts. The Action Area includes the direct Project footprint plus a buffer to allow for equipment access, staging, and any minor design changes that may occur as the Project design is finalized.

1.4.5. Conservation Measures

1.4.5.1. PROJECT DESIGN MODIFICATIONS FOR AVOIDANCE AND MINIMIZATION

The following avoidance and minimization measures would be implemented to reduce Project effects to trees and sensitive habitats:

- Tree removal will be minimized to the extent possible. Environmentally sensitive area (ESA) fencing will be placed along the limits of construction adjacent to the riparian community and the seasonal wetland to exclude construction activities from avoided habitat. The fencing can be installed after initial clearing of vegetation, but shall be installed prior to any further work on the Project. Trucks and other vehicles will not be allowed to park beyond, nor shall equipment be stored beyond the fencing. No vegetation removal or ground disturbing activities will be permitted beyond the fencing.

- Areas temporarily disturbed on the banks of South Fork Weber Creek will be revegetated and native riparian trees will be replanted in the Action Area in accordance with the Revegetation Planting and Erosion Control Specifications (Appendix H) and the Replanting Plan (Appendix I).

Additionally, the following avoidance and minimization measures would be implemented to protect aquatic habitats:

- During construction, water quality will be protected by implementation of BMPs consistent with the Caltrans Stormwater Quality Handbooks (Caltrans 2011) to minimize the potential for siltation and downstream sedimentation of aquatic habitats.

- In-water construction activities will be restricted to the period between 15 April and the first qualifying rain event on or after 15 October (more than one half inch of precipitation in a 24-hour period), subject to the Streambed Alteration Agreement, unless CDFW provides approval of work outside that period.

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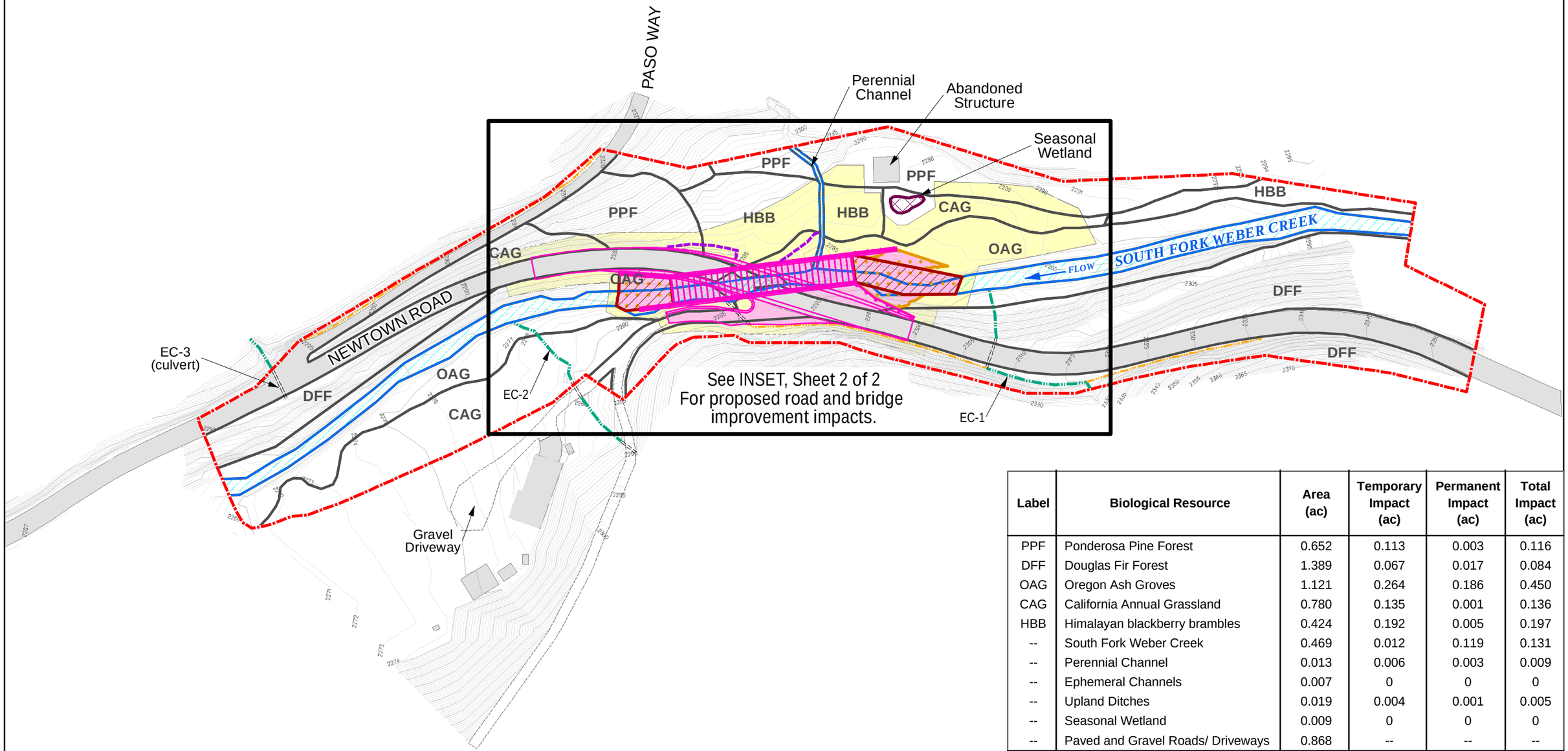

Label	Biological Resource	Area (ac)	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
PPF	Ponderosa Pine Forest	0.652	0.113	0.003	0.116
DFF	Douglas Fir Forest	1.389	0.067	0.017	0.084
OAG	Oregon Ash Groves	1.121	0.264	0.186	0.450
CAG	California Annual Grassland	0.780	0.135	0.001	0.136
HBB	Himalayan blackberry brambles	0.424	0.192	0.005	0.197
--	South Fork Weber Creek	0.469	0.012	0.119	0.131
--	Perennial Channel	0.013	0.006	0.003	0.009
--	Ephemeral Channels	0.007	0	0	0
--	Upland Ditches	0.019	0.004	0.001	0.005
--	Seasonal Wetland	0.009	0	0	0
--	Paved and Gravel Roads/ Driveways	0.868	--	--	--
	Total	**5.752**	**0.793**	**0.335**	**1.128**

Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 3A.
Proposed Project Map (Alternative 1)
Sheet 1 of 2

- Action Area (5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- ===== Existing Culvert
- Proposed Road and Bridge Improvements
- Limits of Grading
- Proposed Rock Slope Protection (RSP)
- Creek Grading
- Permanent Impact
- Temporary Impact

100 50 0 100 Feet
N
Scale: 1 inch = 100 feet

Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: VeerkampSmeltzer Alt A.dwg (19 Jan. 2017)
Parcels and Roads: El Dorado County, GIS datasets

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PASO WAY

NEWTOWN ROAD

Abandoned Structure

Seasonal Wetland

Perennial Channel

LIMIT OF ROADWAY IMPROVEMENT

LIMITS OF GRADING

POTENTIAL STAGING AREA

CONSPAN (RSP below the Conspan not shown.)

RE-ALIGN CHANNEL

WINGWALL

PROPOSED RSP

POTENTIAL STAGING AREA

WINGWALL

FLOW

SOUTH FORK WEBER CREEK

END CREEK RE-ALIGNMENT

PROPOSED RSP

BEGIN CREEK RE-ALIGNMENT

WINGWALL

Gravel Driveway

DRIVEWAY CONFORM

EXISTING BRIDGE

PROPOSED BRIDGE (Alternative 1 Conspan)

RETAINING WALL

LIMIT OF ROADWAY IMPROVEMENT

EC-1

EC-2

Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 3A.
Proposed Project Map (Alternative 1)
Sheet 2 of 2, INSET

- Action Area (5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- ===== Existing Culvert
- Proposed Road and Bridge Improvements
- Limits of Grading
- Realign Channel
- Proposed Rock Slope Protection (RSP)
- Creek Grading
- Permanent Impact
- Temporary Impact

40 20 0 40 Feet

Scale: 1 inch = 40 feet

N

Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: VeerkampSmeltzer Alt A.dwg (19 Jan. 2017)
Parcels and Roads: El Dorado County, GIS datasets

10066NewtownRd@SouthForkWeberCk_BA_ALT1Fig3AProjectMapSht2of2INSET_v2.mxd

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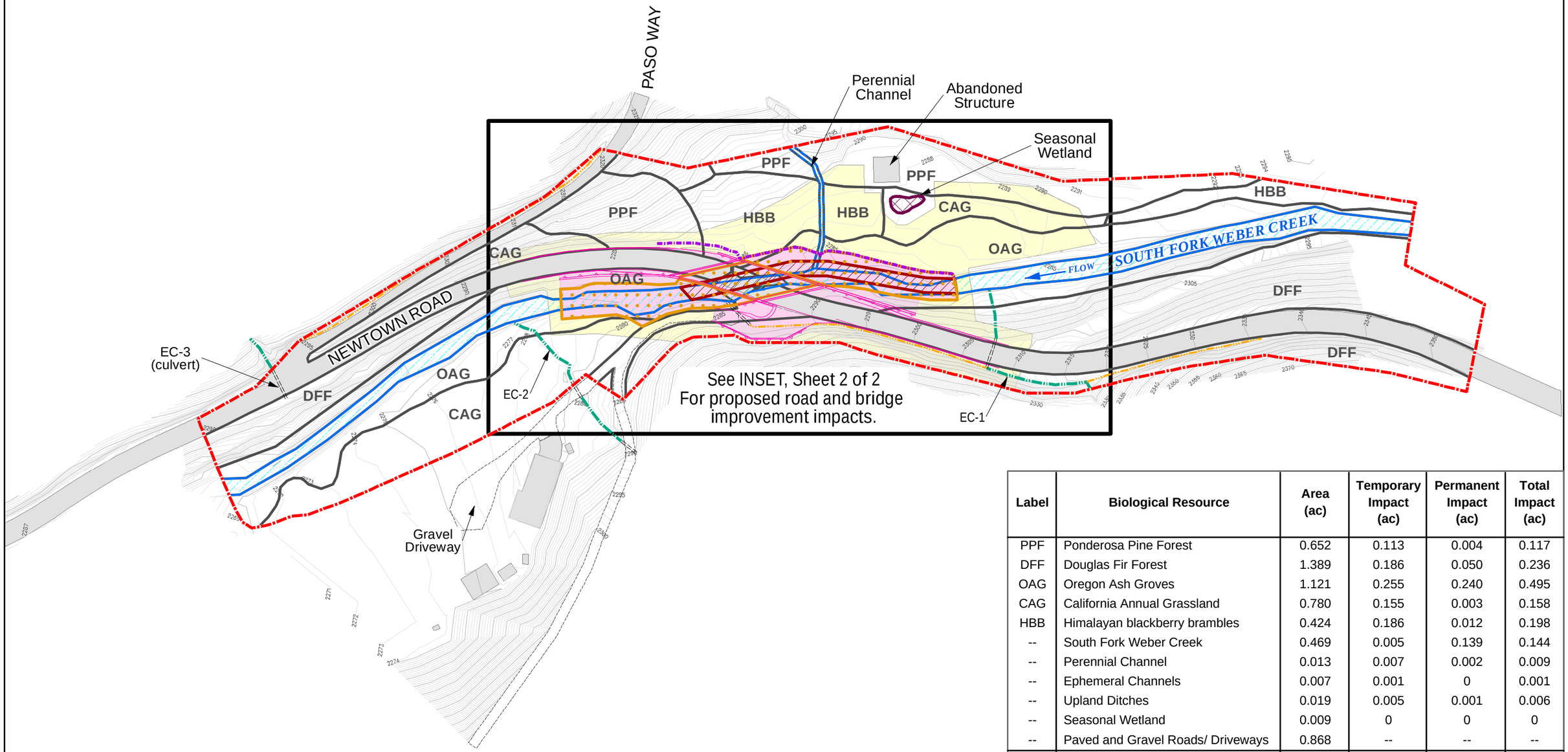

Label	Biological Resource	Area (ac)	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
PPF	Ponderosa Pine Forest	0.652	0.113	0.004	0.117
DFF	Douglas Fir Forest	1.389	0.186	0.050	0.236
OAG	Oregon Ash Groves	1.121	0.255	0.240	0.495
CAG	California Annual Grassland	0.780	0.155	0.003	0.158
HBB	Himalayan blackberry brambles	0.424	0.186	0.012	0.198
--	South Fork Weber Creek	0.469	0.005	0.139	0.144
--	Perennial Channel	0.013	0.007	0.002	0.009
--	Ephemeral Channels	0.007	0.001	0	0.001
--	Upland Ditches	0.019	0.005	0.001	0.006
--	Seasonal Wetland	0.009	0	0	0
--	Paved and Gravel Roads/ Driveways	0.868	--	--	--
	Total	**5.752**	**0.914**	**0.447**	**1.364**

Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 3B.
Proposed Project Map (Alternative 2)
Sheet 1 of 2

- Action Area (5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- ===== Existing Culvert
- Proposed Road and Bridge Improvements
- Limits of Grading
- Proposed Rock Slope Protection (RSP)
- Creek Re-alignment
- Permanent Impact
- Temporary Impact

100 50 0 100 Feet
N
Scale: 1 inch = 100 feet

Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: CREEKBED-ALTERNATIVE 2.dwg (10 Feb. 2017)
Parcels and Roads: El Dorado County, GIS datasets

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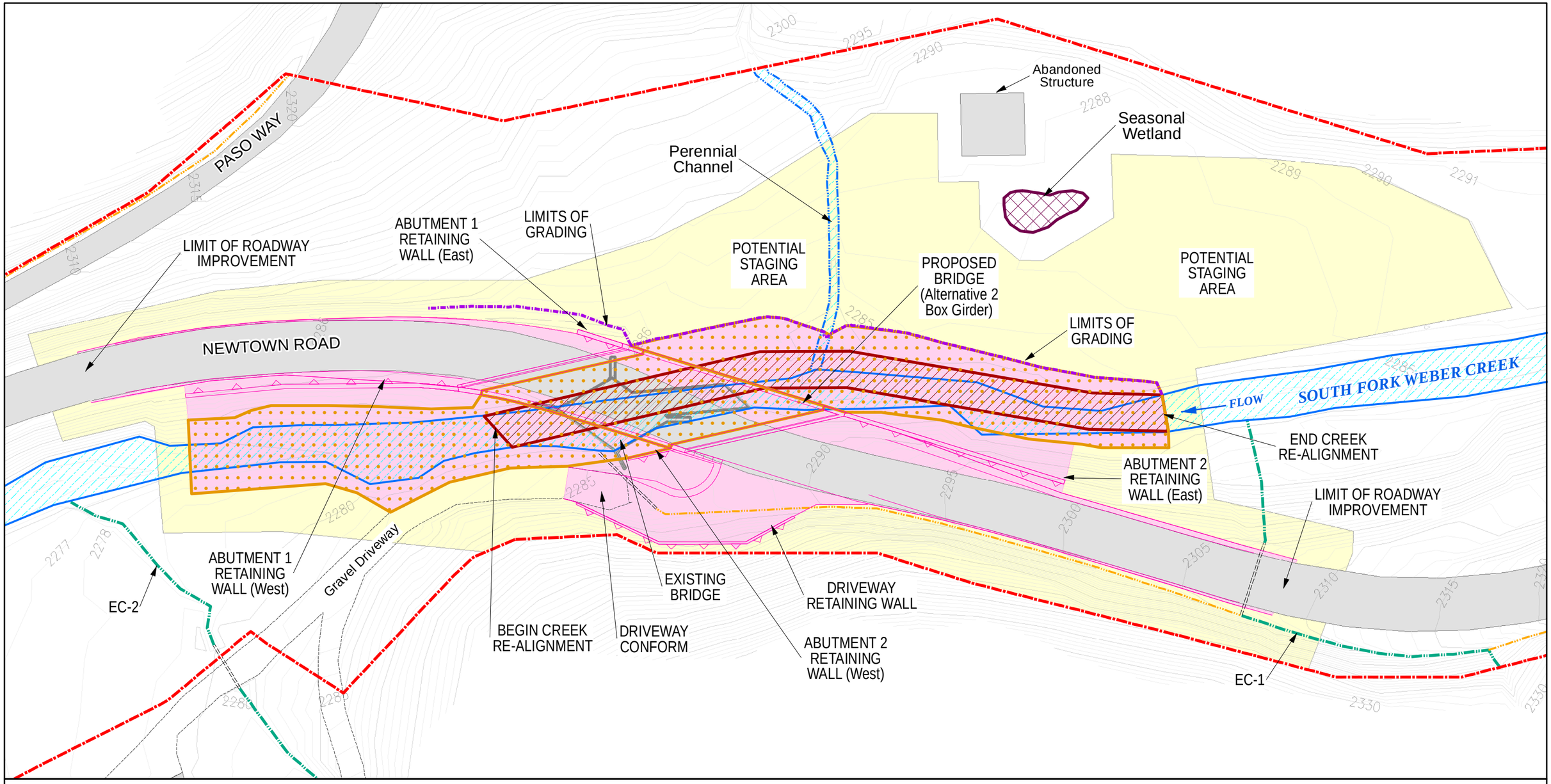

Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 3.
Proposed Project Map (Alternative 2)
Sheet 2 of 2, INSET

- Action Area (5.75 ac)
- South Fork Weber Creek
- Relatively Permanent Water (RPW)
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- ===== Existing Culvert
- Proposed Road and Bridge Improvements
- Limits of Grading
- Proposed Rock Slope Protection (RSP)
- Creek Re-alignment
- Permanent Impact
- Temporary Impact

40 20 0 40 Feet

Scale: 1 inch = 40 feet

N

Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: CREEKBED-ALTERNATIVE 2.dwg (10 Feb. 2017)
Parcels and Roads: El Dorado County, GIS datasets

10066NewtownRd@SouthForkWeberCk_BA_ALT2Fig3BProjectMapSht2of2INSET_v2.mxd

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- Water diversion in South Fork Weber Creek will be conducted in accordance with the County of El Dorado Stormwater Management Plan (SWMP; 2004b) and the El Dorado County grading, erosion, and sediment control ordinance (El Dorado County 2010). Minimization efforts will include marking the limits of construction with temporary fencing.

- Reseeded areas will be covered with a biodegradable erosion control fabric to prevent erosion and downstream sedimentation. Plastic fabric materials will not be used in the erosion control; acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. The Project engineer will determine the specifications needed for erosion control fabric (e.g., shear strength) based on anticipated maximum flow velocities and soil types. The seed type will consist of commercially available native grass and herbaceous species as described in Appendix H. No seed of nonnative species will be used unless certified to be sterile.

- A temporary crossing will be constructed over the perennial channel to facilitate vehicle and equipment travel over the creek channel and banks. Steel plates, crane mats, or similar may be used to construct the crossing. Immediately following Project completion, the crossing will be removed.

The following avoidance/minimization measure would be implemented to reduce the spread of invasive species in the Action Area:

- To reduce the spread of invasive plant species, all mud and debris will be washed off construction equipment prior to entering the site. Areas disturbed during construction will be revegetated with native species or sterile non-native species to reduce the spread of invasive plants in the Action Area.

1.4.5.2. SPECIES SPECIFIC AVOIDANCE/MINIMIZATION MEASURES OR BMPS FROM THE USFWS/NOAA FISHERIES BA CHECKLISTS

Section III of the BA checklist is addressed in Section 1.4.5.1. or 1.4.5.3.

1.4.5.3. CONSERVATION MEASURES

The following conservation measures would be implemented to avoid or minimize adverse effects to CRLF:

- A Service-approved biologist shall conduct a preconstruction survey for CRLF within 48 hours prior to the onset of vegetation removal in the riparian habitat and South Fork Weber Creek. If any CRLF are found, construction activities will stop in the riparian and aquatic habitats, and the USFWS will be contacted immediately for further guidance.

- Environmental awareness training will be conducted by a qualified biologist prior to the onset of Project work for construction personnel to brief them on how to recognize CRLF,

the importance of avoiding impacts to this species, and what to do if they are found. Education programs will be conducted for appropriate new personnel as they are brought on the job during the construction period. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.

- All vegetation scheduled for removal along South Fork Weber Creek will be removed by hand or with hand-held power tools, including chainsaws. To minimize the potential of crushing a CRLF, mechanized vehicles will not be driven through the riparian corridor to clear the vegetation. After the vegetation has been removed, and the biologist confirms the absence of CRLF, stumps and roots may be removed using mechanized vehicles and equipment. Mechanized vehicles will be operated from the top of the bank to the extent feasible.

- A qualified biologist will be present during grubbing and clearing activities in the riparian habitat to monitor for CRLF.

- ESA fencing will be established along the limits of construction adjacent to the riparian community and aquatic habitats to exclude construction activities from avoided habitat. The fencing can be installed after initial clearing of vegetation, but shall be installed prior to any further work on the Project. Vehicles will not be allowed to park in, nor will equipment be stored in the ESA. No storage of oil, gasoline, or other substances will be permitted in the ESA. No vegetation removal or ground disturbing activities will be permitted in the ESA.

- The contractor will prepare a creek diversion plan that complies with any applicable permit conditions. A qualified biologist will conduct a survey of the area to be diverted prior to diversion installation. The qualified biologist will be present during installation and removal of the diversion structure and dewatering activities.

- If a work site is to be temporarily dewatered by pumping, the intake will be screened with wire mesh not larger than 0.2 inch to prevent any CRLF not initially detected from entering the pump system.

- Plastic mono-filament netting (erosion control matting) or similar material containing netting shall not be used at the Project site because the CRLF or other animals may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

- All refueling, maintenance; and staging of equipment and vehicles will occur in accordance with Caltrans Best Management Practices (BMPs) NS-8, 9 and 10 (Caltrans 2017) to prevent spills from draining directly toward aquatic habitat.

- To prevent inadvertent entrapment of CRLF during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the end of each working

day with plywood or similar material. If it is not possible to cover the trench at the end of the work day, Permittee shall either 1) Install an exclusion fence surrounding and enclosing the open end(s) of the trench, or 2) shall place an escape ramp at each end of open trench. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.

- If CRLF are found at any time during Project work, construction will stop in the riparian and aquatic habitats, and the USFWS will be contacted immediately for further guidance.
- To ensure compliance with the Project's avoidance and minimization measures, a County inspector will be on-site whenever in-water work occurs. The County construction inspector will make recommendations to the construction personnel, as needed, to comply with all Project implementation restrictions and guidelines. The County construction inspector will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources. A qualified biologist will be available during the construction period to assist the County construction inspector if CRLF are found and to answer questions and make recommendations regarding implementation of CRLF avoidance and minimization measures.
- Upon completion of construction activities, any barriers to flow shall be removed to allow flow to resume with the least disturbance to the substrate.
- To ensure that diseases are not conveyed between work sites by the Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times: https://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf

1.4.6. Interrelated and interdependent Actions

No project interrelated or interdependent actions were identified that would impact CRLF.

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Chapter 2. Study Methods

This section discusses the biological studies conducted in support of this BA, and describes the study methods including how and when the studies were conducted.

2.1. Summary

An evaluation of biological resources was conducted to determine whether any federal-listed or federal-proposed plant or wildlife species, or their habitat, occur in the Action Area. Data on federal-listed and federal-proposed species and habitats known in the area were obtained from state and federal agencies. Maps and aerial photographs of the Action Area and surrounding areas were reviewed. A field survey was conducted to determine the habitats present. The field survey, map review, and a review of the biology of evaluated species and habitats were used to determine the federal-listed or federal-proposed species that could occur in the Action Area.

Data received from USFWS, NMFS, CNDDB, and CNPS records were used to compile a table of federal-listed and federal-proposed species (Table 1).

Biological surveys consisted of walking through the Action Area to determine if any special-status species or their habitat were present. Natural communities, wildlife species, and plant species were identified and recorded. Potential habitat for special-status species was evaluated. Appendix G is a list of plant species observed during surveys. Photographs of the Action Area are in Appendix E.

A jurisdictional delineation of wetlands and waters was conducted according to U.S. Army Corps of Engineers standards (Corps 1987; Corps 2008). The jurisdictional delineation report is separately bound. The results of the jurisdictional delineation are incorporated into this BA.

A botanical survey was conducted in accordance with California Department of Fish and Wildlife (CDFW) protocol (CDFW 2009). The survey was conducted in June and July to coincide with the evident and identifiable period of special-status plants with potential to occur in the Action Area. Approximately 11 person-hours were spent surveying the Action Area. The surveys consisted of walking systematically through the Action Area while looking for vascular plants. Areas where a different microhabitat was present, such as a wetland, were inspected. Additional time was spent on-site during the general biological survey and jurisdictional delineation. Fieldwork conducted in 2012 confirmed that no potential habitat for any federal-listed plant species occurs in the Action Area. Approximately 30 person-hours were spent keying specimens collected in the field. Plants were keyed using *The Jepson Manual: Vascular plants of California*, 2nd ed. (Baldwin et al., eds. 2012). All vascular plants observed on-site are in Appendix G.

2.2. Personnel and Survey Dates

Table 2 contains the date, personnel, and purpose of field surveys that were conducted in support of the Project.

Table 2. Summary of Biological Fieldwork

Date	Personnel	Purpose
4 May 2011	Jeff Little, Vice President/ Project Manager	Reconnaissance survey
12 June 2012	Mike Bower, M.S. Biologist/ Botanist Jessica Orsolini, B.S., Wildlife Biologist	Biological survey, wetland delineation, botanical survey
27 July 2012	Chuck Hughes, M.S., Botanist Mike Bower, M.S. Biologist/ Botanist	Wetland delineation, botanical survey
8 October 2012	Chuck Hughes, M.S., Botanist	Channel hydrology verification
7 March 2013	Jessica Orsolini, B.S., Wildlife Biologist	Environmental awareness training and monitoring
25 January 2016	Mike Bower, M.S. Biologist/ Botanist	Environmental awareness training and monitoring
26 June 2016	Allie Sennett, M.S., Biologist	Environmental awareness training and monitoring
27 June 2016	Allie Sennett, M.S., Biologist	Monitoring
23 August 2017	Jeff Little, Vice President/ Project Manager Jessica Orsolini, B.S., Wildlife Biologist	Site visit with USFWS, Corps, and County

2.3. Resource Agency Coordination and Professional Contacts

An official letter and list were obtained from the USFWS, Sacramento Field Office on 18 September 2011, and updated on 26 February 2018 (Appendix A). The list identifies federal-listed, candidate, or proposed species that potentially occur in, or could be affected by, the Project. There is no critical habitat present within the Action Area.

The NMFS database lists EFH for Pacific Salmon for the Camino USGS quadrangle (Appendix B). One species under NMFS jurisdiction was included on the USFWS species list – Northern California steelhead Distinct Population Segment (DPS; *Oncorhynchus mykiss irideus*). The Action Area is upstream of the Nimbus Dam, a complete barrier to anadromous fish passage (NMFS 2014).

The CNDDB was queried for known occurrences of federal-listed species in or near the Action Area (Camino Quad and the eight surrounding quads; data dated 26 February 2018; Appendix C).

The CNPS inventory of rare and endangered plants was queried for known occurrences of federal-status plants in or near the Action Area (Camino Quad and the eight surrounding quads; data dated 26 February 2018; Appendix D).

Coordination occurred with Monika Pedigo, Associate Civil Engineer, Jennifer Maxwell, P.E., Senior Civil Engineer, and Chandra Ghimire, P.E., Senior Civil Engineer, El Dorado County Department of Transportation, on an ongoing basis.

Between December 2016 and mid-February 2017, the County and Sycamore Environmental provided Jennifer Osmondson, a biologist with Caltrans, information regarding past and proposed cultural investigations for the Project.

On 12 January 2017, Jennifer Osmondson, notified Richard Kuyper, Sierra/Cascades Division Chief, USFWS, of past and proposed cultural investigations for the Project. Richard Kuyper delegated technical assistance responsibilities to Rebecca Kirby, Biologist, USFWS.

Rebecca Kirby provided technical assistance to Jennifer Osmondson on 26 and 30 January 2017 and 15 and 21 February 2017. On 15 February 2017, Rebecca Kirby informed Jennifer Osmondson that proposed cultural investigations may proceed without initiating consultation. On 21 February 2017, Rebecca Kirby provided Caltrans notice to proceed with cultural investigations, provided that Caltrans commit to select avoidance and minimization measures for CRLF during the cultural investigations.

On 23 August 2017, Ian Vogel, USFWS biologist, and representatives from the Corps of Engineers and El Dorado County briefly stopped at the Newtown Bridge site after conducting a field review at the Fort Jim Rd Sinkhole Repair Project. The Fort Jim Sinkhole Repair Project is located on South Fork Weber Creek, approximately 2 miles downstream of the Action Area. On 7 and 21 September, Ian Vogel provided information related to eDNA surveys conducted along Weber Creek and North Fork Weber Creek in 2017. The Fort Jim Road culvert is immediately upstream of the confluence of the North and South Forks.

2.4. Limitations and Assumptions that may Influence Results

No problems or limitations were encountered that may have influenced the results.

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Chapter 3. Environmental Baseline

The Environmental Baseline describes the setting in which the Project would occur and includes the effects from past and present Federal, State, private actions; proposed Federal projects with completed Section 7 consultations; and contemporaneous State or private actions with consultation in progress. The environmental baseline also considers non-permitted actions (i.e., other nonfederal actions occurring within the Action Area).

3.1. Habitat Conditions in the Action Area

The approximately 5.752-acre Action Area includes 0.25 mile of Newtown Road, the road shoulders and adjacent right-of-way, and portions of adjacent private parcels. Land use surrounding the Action Area consists of low density residential. Habitats in the Action Area include mixed coniferous forests, Oregon ash groves, California annual grassland, and Himalayan blackberry brambles. South Fork Weber Creek flows east to west below the existing bridge in the Action Area. Other aquatic features include a perennial channel, three ephemeral channels, and a seasonal wetland.

Potential aquatic habitat for CRLF in the Action Area consists of South Fork Weber Creek and a perennial channel. South Fork Weber Creek and the perennial channel in the Action Area provide potential foraging and dispersal habitat for CRLF. Pools downstream of the bridge in South Fork Weber Creek are of sufficient depth to provide potential breeding habitat for CRLF, though emergent vegetation is minimal and high flows in winter and spring are likely not compatible with CRLF breeding. A detailed discussion of habitat requirements and suitability of habitat in the Action Area is in Section 4.2.

3.2. Summary of Environmental Baseline

The Action Area is in the western foothills of the Sierra Nevada Mountains along Newtown Road, roughly 2 miles south of the community of Camino in unincorporated El Dorado County. Newtown Road is a two-lane paved road that travels roughly east-west through the Action Area. Paso Way and one gravel residential driveway intersect Newtown Road in the Action Area.

Vegetation in the Action Area consists of mixed coniferous forests (Douglas fir forest and Ponderosa pine forest), Oregon ash groves, California annual grassland, and Himalayan blackberry brambles. Oregon ash groves occur along South Fork Weber Creek. Douglas fir forest occurs in the uplands north and south of the creek, and is most common in the southeast portion of the Action Area. This community occurs primarily on north-facing slopes in the Action Area. Ponderosa pine forest occurs in the uplands north of Newtown Road. This community occurs primarily on south-facing slopes in the Action Area. Multiple patches of California annual grassland occur throughout the Action Area. Paved and gravel roads are disturbed communities that are part of the built environment.

A jurisdictional delineation of wetlands and waters was conducted according to U.S. Army Corps of Engineers standards (Corps 1987; Corps 2008). South Fork Weber Creek and an unnamed

perennial channel are perennial drainages that were mapped in the Action Area. Additionally, three ephemeral channels, three upland ditches, and one seasonal wetland were mapped.

The Action Area does not provide habitat for any federal-listed plants. The Action Area is not accessible to federal-listed anadromous fish species. Weber Creek flows into Folsom Lake. The Nimbus Dam on Folsom Lake is a complete barrier to anadromous fish passage. South Fork Weber Creek is not designated as Essential Fish Habitat (EFH) for Pacific salmon. There is no critical habitat in the Action Area.

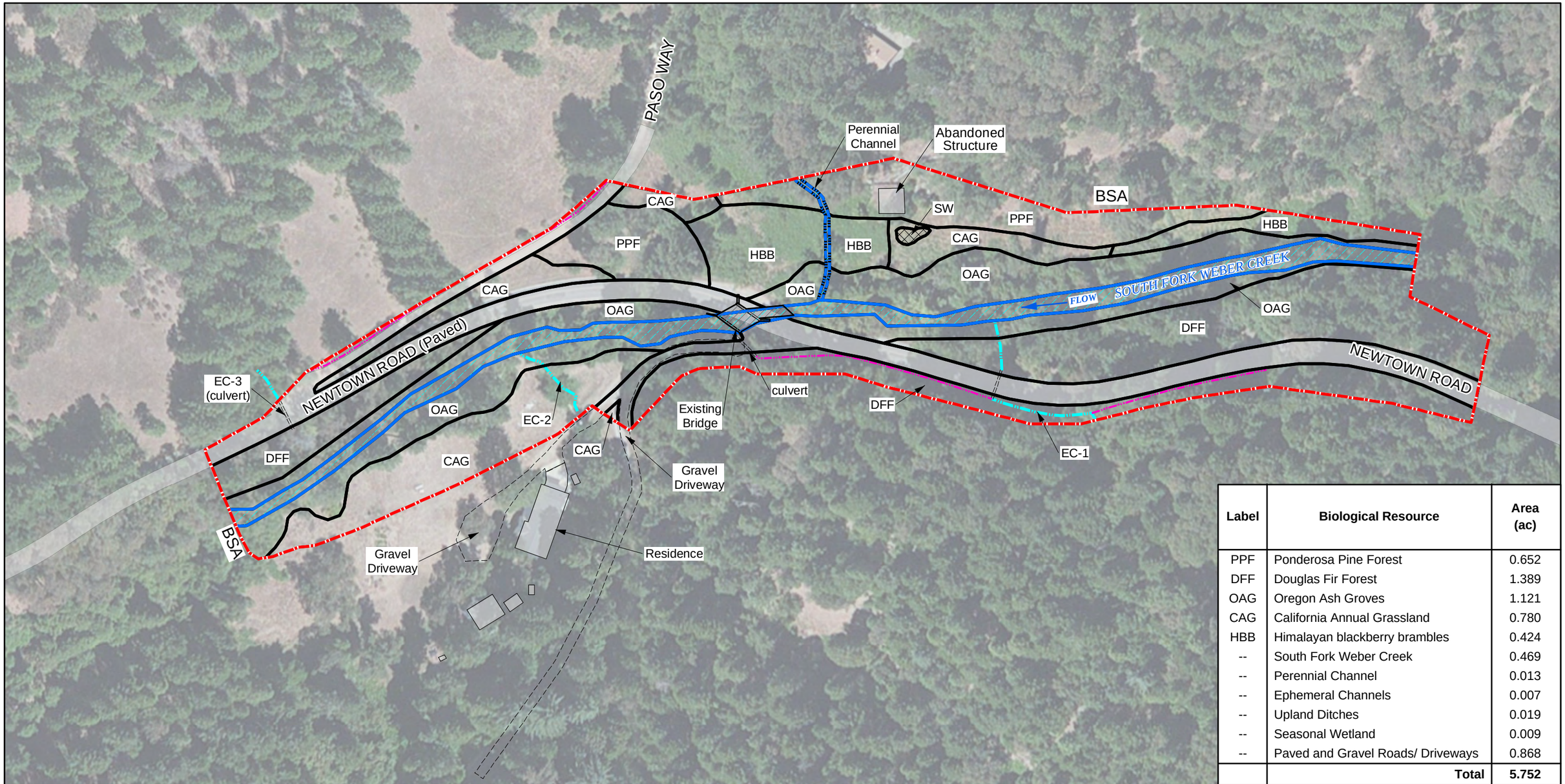
3.3. Action Area

3.3.1. Physical Conditions

The Action Area is on the Camino quad (T10N, R12E, Section 20) and is in the South Fork American Hydrologic Unit (Hydrologic Unit Code 18020129). The centroid of the Action Area is 38.759468° north, 120.492233° west (WGS 84), and its UTM coordinates are 717,900 m East; 4,293,070 m North (Zone 10 North, WGS84, Mt. Diablo Base and Meridian). Elevation in the Action Area ranges from approximately 2,270 to 2,355 feet above sea level. Soils in the Action Area are Placer Diggings, derived from a mixture of rocks which have been placer mined; Mariposa-Josephine very rocky loams, derived from schist, slate, and contact metamorphic rock; and Sites loam, derived from metasedimentary and metabasic rock. More detailed soil information is in the Jurisdictional Delineation Report (separately bound).

3.3.2. Biological Communities/Habitat Types

Biological communities are defined by species composition and relative abundance. Biological communities that occur in the Action Area are listed in Table 3 and shown on Figure 4. These communities correlate where applicable with the list of California terrestrial natural communities recognized by CDFW (2010). Descriptions of biological communities present in the Action Area are included below.



Label	Biological Resource	Area (ac)
PPF	Ponderosa Pine Forest	0.652
DFF	Douglas Fir Forest	1.389
OAG	Oregon Ash Groves	1.121
CAG	California Annual Grassland	0.780
HBB	Himalayan blackberry brambles	0.424
--	South Fork Weber Creek	0.469
--	Perennial Channel	0.013
--	Ephemeral Channels	0.007
--	Upland Ditches	0.019
--	Seasonal Wetland	0.009
--	Paved and Gravel Roads/ Driveways	0.868
	Total	**5.752**

Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 4.
Biological Resources Map

- Action Area (5.75 ac)
- Biological Boundary
- South Fork Weber Creek
- Seasonal Wetland (SW)
- Perennial Channel
- Ephemeral Channel (EC)
- Upland Ditches
- ===== Existing Culvert
- Existing Bridge Location

100 50 0 100 Feet
N
Scale: 1 inch = 100 feet

Topographic basemap:
XSurface.dwg (10 Nov 2015)
by El Dorado County DOT

Aerial Photograph:
11 July 2016
NAIP 2016, USDA FSA Imagery
ESRI ArcGIS Basemap Service layer

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

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Table 3. Biological Communities within the Action Area

Natural Community	Vegetation Alliance [1] and CDFW Alliance Code [2]	Rarity Rank [3]	Acreage
Ponderosa Pine Forest	*Pinus ponderosa* Forest Alliance (87.010.00)	G5 S4	0.652
Douglas Fir Forest	*Pseudotsuga menziesii* Forest Alliance (82.200.00)	G5 S4	1.389
Oregon Ash Groves	*Fraxinus latifolia* Forest Alliance (61.960.00)	G4 S3	1.121
California Annual Grassland	--	--	0.780
Himalayan Blackberry Brambles	*Rubus armeniacus* Semi-Natural Shrubland Stand	--	0.424
South Fork Weber Creek	--	--	0.469
Perennial Channel	--	--	0.013
Ephemeral Channels	--	--	0.007
Upland Ditches	--	--	0.019
Seasonal Wetland	*Poa pratensis* Semi-Natural Herbaceous Stand or Annual Brome Semi-Natural Stand	--	0.009
Paved and Gravel Roads/ Driveways	--	--	0.868
		Total:	**5.752**

[1] Vegetation alliances based on descriptions and classification methods in Sawyer et al. (2009).

[2] Alliance codes from CDFW (2010).

[3] Rarity ranking follows NatureServe's Heritage Methodology and is based on degree of imperilment as measured by rarity, trends, and threats. State (S) ranks of 1-3 are considered highly imperiled (CDFW 2010). Global (G) ranks are as follows: GX – eliminated; GH – presumed eliminated; G1 – critically imperiled; G2 – imperiled; G3 – vulnerable; G4 – apparently secure; G5 – secure.

Ponderosa Pine Forest

Ponderosa pine forest occurs in the upland areas of the Action Area north of Newtown Road. This community occurs primarily on south-facing slopes in the Action Area. This community is dominated by Ponderosa pine (*Pinus ponderosa*) in the tree canopy. Black oaks (*Quercus kelloggii*) and valley oaks (*Quercus lobata*) occur in lesser abundance in the tree canopy. The understory in this community is sparsely vegetated with nonnative herbaceous grasses and forbs such as tall sock-destroyer (*Torilis arvensis*), Klamathweed (*Hypericum perforatum* ssp. *perforatum*), goose grass (*Galium aparine*), and bristly dogtail grass (*Cynosurus echinatus*).

Douglas Fir Forest

Douglas fir forest occurs in the upland areas of the Action Area south of Newtown Road. This community occurs primarily on north-facing slopes in the Action Area. The overstory is dominated by Douglas fir (*Pseudotsuga menziesii*). Black oaks, Ponderosa pines, and incense cedars (*Calocedrus decurrens*) occur in lesser abundance in the tree canopy. Big-leaf maples (*Acer*

macrophyllum) occur along the road cutbank. The understory is dominated by western poison oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos* sp.), gooseberry (*Ribes* sp.), and bracken (*Pteridium aquilinum* var. *pubescens*).

Oregon Ash Groves

Oregon ash groves occur along the margins of South Fork Weber Creek. The overstory is dominated by Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), and big-leaf maple (*Acer macrophyllum*). Arroyo willow (*Salix lasiolepis*) and cherry (*Prunus* sp.) occur in lesser abundance. The understory is dominated by Himalayan blackberry (*Rubus armeniacus*), seep monkeyflower (*Mimulus guttatus*), sedge (*Carex feta*, *C. leptopoda*, and *C. praegracilis*), Pacific rush (*Juncus effusus* ssp. *pacificus*), orchard grass (*Dactylis glomerata*), spearmint (*Mentha spicata*), and giant chain fern (*Woodwardia fimbriata*).

California Annual Grassland

California annual grassland occurs adjacent to a private residence southwest of the bridge and around Paso Way northwest of the bridge. This community is dominated by nonnative weedy, herbaceous species. The grassland community adjacent to the private residence is dominated by skeleton weed (*Chondrilla juncea*), smooth cat's ear (*Hypochaeris glabra*), tall fescue (*Festuca arundinacea*), and rose clover (*Trifolium hirtum*). Along Paso Way, this community is dominated by yellow-star thistle (*Centaurea solstitialis*), barbed goat grass (*Aegilops triuncialis*), orchard grass (*Dactylis glomerata*), wild oat (*Avena* sp.), and nonnative bromes (*Bromus diandrus*, *B. hordeaceus*, *B. madritensis* ssp. *rubens*, and *B. sterilis*). One seasonal wetland occurs in the California annual grassland community.

Himalayan Blackberry Brambles

Himalayan blackberry brambles occur on the north side of South Fork Weber Creek and along the perennial channel. This community is dominated by Himalayan blackberry (greater than 90% cover; *Rubus armeniacus*) with occasional cutleaf blackberry (*Rubus laciniatus*) and common scouring rush (*Equisetum hyemale* ssp. *affine*). Himalayan blackberry is an invasive plant rated 'high' in terms of its ecological impact in California by the California Invasive Plant Council (Cal-IPC 2006).

Upland Ditches

There are three upland ditches in the Action Area. All three upland ditches are roadside ditches excavated in uplands for the purpose of draining runoff from Newtown Road and Paso Way. Each of the upland ditches empty into South Fork Weber Creek. None of the ditches contained water during the field surveys.

Paved and Gravel Roads/ Driveways

Newtown Road is a paved two-lane road that travels east-west through the Action Area. Paso Way is a gravel single-lane road that travels northeast from the intersection of Newtown Road. A gravel private residence driveway occurs just east of the bridge on the south side of Newtown Road.

3.3.3. Aquatic Resources

South Fork Weber Creek

Within the Action Area, South Fork Weber Creek flows east to west and is approximately 1,100 feet long, 59.7 feet wide on average, and occupies 0.469 acre. South Fork Weber Creek is mapped as a perennial stream on the USGS Camino quad map and the National Wetlands Inventory (NWI) map. South Fork Weber Creek transitions from intermittent to perennial within the Action Area. Water was flowing in South Fork Weber Creek in the Action Area during the 4 May 2011 and 12 June 2012 surveys. During the 27 July 2012 survey, South Fork Weber Creek was flowing only downstream (west) of the confluence of the perennial channel, located north and east of the existing bridge. Upstream (east) of the confluence with the perennial channel, South Fork Weber Creek was dry with a few shallow puddles. A very small amount of water from the perennial channel contributes to perennial flow in South Fork Weber Creek downstream (west of) the existing bridge during the dry season.

A riparian corridor (Oregon ash groves, discussed above) borders South Fork Weber Creek in the Action Area. The bed of South Fork Weber Creek is dominated by large cobble and bedrock. The banks of South Fork Weber Creek are generally vegetated, but are occasionally composed of bare rock. South Fork Weber Creek originates approximately 5 miles east of the Action Area, south of the community of Pollock Pines. South Fork Weber Creek converges with North Fork Weber Creek to form Weber Creek approximately 2 miles west of the Action Area. Weber Creek drains to the South Fork American River upstream of Folsom Lake.

Perennial Channel

Approximately 0.013 acre of an unnamed perennial channel occurs north of South Fork Weber Creek in the Action Area. It flows south through the Himalayan blackberry brambles and joins South Fork Weber Creek just east of the Newtown Road Bridge. There is no contiguous riparian corridor associated with the perennial channel, which was flowing during all field surveys. The hydrology of the perennial channel is altered due to impoundments upstream, north of the Action Area. Without the artificial impoundments, the perennial channel would likely be intermittent or ephemeral.

Ephemeral Channels

Three ephemeral channels occupy a total of 0.007 acre in the Action Area. Each ephemeral channel drains to South Fork Weber Creek. None of the ephemeral channels contained flowing water during fieldwork. None of the ephemeral channels have riparian corridors.

> Ephemeral Channel 1 occurs on the south side of South Fork Weber Creek, east of the bridge. The channel originates in a well-defined natural drainage on the hillside south of Newtown Road. Ephemeral Channel 1 is diverted into the roadside ditch south of Newtown Road, and flows west to a culvert that delivers water north under Newtown Road. The culvert outfalls onto the south bank above South Fork Weber Creek.

Ephemeral Channel 2 occurs on the south side of South Fork Weber Creek, west of the bridge. Ephemeral Channel 2 originates on the hillside in the Douglas fir forest south of a private driveway. Ephemeral Channel 2 flows north through a culvert under the private driveway just southeast of the Action Area, through the California annual grassland, and into South Fork Weber Creek. Ephemeral Channel 2 drains through the remnants of a small, dry, human-made pond between the private driveway and South Fork Weber Creek. The earthen banks of the pond have eroded. The pond was originally constructed for flood control as a requirement for a building permit and does not hold water (pers. comm., W. Nagel 2012).

Ephemeral Channel 3 occurs on the north side of South Fork Weber Creek. The only portion of this drainage that occurs in the Action Area flows through a culvert under Newtown Road at the intersection of Paso Way. The remainder of Ephemeral Channel 3 occurs north of and outside the Action Area. There is no defined channel from the culvert outfall to South Fork Weber Creek.

Seasonal Wetland

A 0.009-acre isolated wetland occurs on the topographically level plain north of South Fork Weber Creek, east of the existing bridge. Vegetation in the seasonal wetland is similar to the California annual grassland in the Action Area, but is dominated by soft chess (*Bromus hordeaceus*), Kentucky blue grass (*Poa pratensis* spp. *pratensis*), and freeway sedge (*Carex praegracilis*). Blue wild rye (*Elymus glaucus*), short sock-destroyer (*Torilis nodosa*), common scouring rush, and bull thistle (*Cirsium vulgare*) are also present.

3.3.4. Invasive Species

Invasive plants are a subset of nonnative plants that spread into undisturbed ecosystems and generally negatively impact native plants and alter ecosystem processes (Cal-IPC 2016). The California Invasive Plant Council (Cal-IPC) maintains an inventory of invasive nonnative plants that threaten wildland areas of California. Assessments are based on the "criteria for categorizing non-native plants that threaten wildlands" (Warner et al. 2003). The Cal-IPC inventory evaluates ecological impacts, invasive potential, and ecological distribution. Species receive an overall rating of High, Moderate, or Limited. Ratings are defined below (Cal-IPC 2016). There are 27 invasive plant species that occur in the Action Area (Appendix G). The four species rated "High" by the Cal-IPC (2016) are discussed in further detail below. The invasive plant species rated "High" found in the Action Area are common in El Dorado County.

High: "These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically."

Moderate: "These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal,

though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread."

Limited: "These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic" (Cal-IPC 2016).

Yellow Star-Thistle (*Centaurea solstitialis*)

Yellow star-thistle is a deep-taprooted winter annual or short-lived perennial that spreads by seed. Human activities are the primary mechanisms for the long-distance movement of yellow-star thistle seed. Once at a new location, seed is transported in lesser amounts and over short to medium distances by animals and humans. Seed heads readily adhere to clothing, hair, and fur (Bossard et al. 2000). Plants are highly competitive and typically develop dense, impenetrable stands that displace desirable vegetation in natural areas, rangelands, roadsides, other places. Yellow star-thistle is considered one of the most serious rangeland weeds in the western United States (DiTomaso and Healy 2007a). Yellow star-thistle interferes with grazing and lowers yield and forage quality of rangelands. It also reduces land value and limits access to recreational areas (Bossard et al. 2000). Within the Action Area, yellow star-thistle primarily occurs in the grassland community.

Himalayan blackberry (*Rubus armeniacus*)

Himalayan blackberry typically occurs on disturbed moist open sites, roadsides, fencerows, fields, canal and ditch banks, and riparian areas in many plant communities. It tolerates periodic flooding and brackish water. Himalayan blackberry is common throughout California, except in deserts, to 5,250 feet. It forms impenetrable thickets and rapidly displaces native plant species (Bossard et al. 2000). It reproduces by seed, root sprouting, and stem tip rooting. Seeds may be transported long distances by wildlife, especially birds. Germination occurs mainly in spring. Small populations may be controlled effectively by manual removal (DiTomaso and Healy 2007b). In the Action Area, Himalayan blackberry is abundant on the north side of South Fork Weber Creek, east of the existing bridge. Himalayan blackberry occurs in lesser abundance along the bed and banks of South Fork Weber Creek.

Barbed goat grass (*Aegilops triuncialis*)

Barbed goat grass is a winter annual that occurs in dry, disturbed sites, fields, pastures, and roadsides. Barbed goat grass invades undisturbed grasslands and oak woodlands, but usually not chaparral. This species spreads long distances with human activities, vehicle tires, water, wind, and by ingestion by or clinging to livestock, especially sheep (DiTomaso and Healy 2007b). Barbed goat grass occurs in low abundance in the grassland community in the Action Area.

Red brome (*Bromus madritensis* ssp. *rubens*)

Red brome is a cool-season annual that occurs in open disturbed areas, roadsides, fields, rangelands, agronomic crops, orchards, forestry sites, and many natural plant communities. Red brome spreads by seed through wind and food caching by rodents. This species spreads greater distances with water and soils movements, by clinging to animals and to the shoes and clothing of humans, and through recreational, agricultural, and construction activities. It is among the numerous European annual grasses that have displaced much of the native grassland vegetation throughout California. It is highly flammable when dry, increasing the frequency and spread of wildfire in certain communities (DiTomaso and Healy 2007b). Red brome occurs in low abundance in the California annual grassland community in the Action Area.

3.3.5. Common Wildlife Species

Wildlife species observed in the Action Area are listed in Appendix G. Numerous other common wildlife species have potential to occur in the Action Area. Common amphibian and reptile species with potential to occur include, but are not limited to: California mountain kingsnake (*Lampropeltis zonata*), gopher snake (*Pituophis catenifer*), valley garter snake (*Thamnophis sirtalis fitchi*), mountain garter snake (*Thamnophis elegans elegans*), Sierra garter snake (*Thamnophis couchii*), northern pacific rattlesnake (*Crotalus oreganus oreganus*), southern alligator lizard (*Elgaria multicarinata*), western fence lizard (*Sceloporus occidentalis*), Sierran treefrog (*Pseudacris sierra*), and western toad (*Anaxyrus boreas*).

Common bird species with potential to occur include, but are not limited to: wild turkey (*Meleagris gallopavo*), American robin (*Turdus migratorius*), Anna's hummingbird (*Calypte anna*), black-headed grosbeak (*Pheucticus melanocephalus*), American dipper (*Cinclus mexicanus*), downy woodpecker (*Picoides pubescens*), great horned owl (*Bubo virginianus*), bushtit (*Psaltriparus minimus*), California quail (*Callipepla californica*), California towhee (*Melozone crissalis*), house finch (*Carpodacus mexicanus*), northern flicker (*Colaptes auratus*), Nuttall's woodpecker (*Picoides nuttallii*), spotted towhee (*Pipilo maculatus*), white-breasted nuthatch (*Sitta carolinensis*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*).

Common mammal species with potential to occur include, but are not limited to: mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), western gray squirrel (*Sciurus griseus*) North American deermouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*).

3.3.6. Movement Corridors

The Action Area is located in a rural residential area and the scope and footprint of the Project are small compared to the surrounding available habitat. The Project does not substantially increase the footprint of Newtown Road or change existing wildlife movement corridors.

Policy 7.4.2.9 of the El Dorado County General Plan identifies and protects areas designated as an Important Biological Corridor (IBC). The IBC overlay applies to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Applicable

provisions in the policy include no hindrances to wildlife movement (El Dorado County 2004a). The County-designated IBC overlay does not overlap the Action Area.

Both bridge designs contain abutments that would be constructed behind the existing, vertical concrete abutments. The existing abutments would be removed. After the old abutments are removed, the width of the channel under the existing bridge would increase. The increased width between abutments would improve the terrestrial wildlife movement corridor in the Action Area. Wildlife would be able to cross under the Newtown Road Bridge above the OHWM of South Fork Weber Creek.

Mule deer habitat of the Western United States (WAFWA 2016) was reviewed for mule deer migration corridors. The Project is located within the year-round population range of mule deer habitat. The year-round population range includes areas that provide habitat all year for a population of mule deer. The range of mule deer extends throughout much of California. Mule deer range includes the North Coast, Sacramento Valley, Cascade Ranges, Modoc Plateau, San Francisco Bay Area, Sierra Nevada, Transverse Range and most of the Central Coast and Peninsular Ranges. Mule deer typically do not occur in much of the San Joaquin Valley, Mojave Desert, South Coast, and sections of the Sonoran Desert.

Important Bird Areas (IBAs) identify sites that provide essential habitat for birds. The National Audubon Society IBAs were reviewed to determine if the Project is located in a Global IBA, Continental IBA, or State IBA (NAS 2017). The Project is not located in any IBA.

South Fork Weber Creek is tributary to Weber Creek, which flows into Folsom Lake. The Nimbus Dam on Folsom Lake is a complete barrier to anadromous fish passage. The Action Area is not accessible to anadromous fish.

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Chapter 4. Federally-Listed/Proposed Species and Designated Critical Habitat within Action Area

4.1. Federally-Listed/Proposed Species

One federal-listed species, CRLF (*Rana draytonii*), was determined to have the potential to occur in the Action Area, and could be affected by the proposed action.

4.2. Discussion of California Red-Legged Frog (CRLF; *Rana draytonii*)

The CRLF was listed as a federal-threatened species on 23 May 1996 (FR 61:25813-25833). Critical habitat was designated for CRLF in April 2006 (FR 71:19244-19346) and revised in March 2010 (FR 51:12816-12959). The CRLF inhabits ponds and quiet pools of streams and marshes (CWHR 2017). Adults typically require dense, shrubby, or emergent riparian vegetation closely associated with deep (greater than 2 feet), still, or slowly moving water. Deep-water pools with dense stands of overhanging willows intermixed with cattails support the highest densities of CRLF. Well-vegetated terrestrial areas within a riparian corridor may provide important sheltering habitat during the winter (USFWS 1996). Frogs spend considerable time resting and feeding in riparian vegetation when it is present (USFWS 2002).

CRLF require water to breed. Breeding sites may hold water only seasonally, but sufficient water must persist into the summer for tadpoles to reach a size for metamorphosis. CRLF typically breed from mid-December through early April, earlier than other ranids within its range (Barry and Fellers 2013). Timing of breeding is likely influenced by local precipitation and ambient temperature. CRLF typically breed after significant rainfall and after the cold periods of winter have passed (Cook 1997).

Female CRLF deposit egg masses on emergent vegetation so that the masses float on the surface of the water. Embryos hatch in 1-4 weeks depending on water temperature. The tadpoles metamorphose within 3-5 months, usually from July through September (Cook 1997), although there are records of them overwintering (Fellers et al. 2001). Breeding habitats for CRLF vary from deep, still, or slow moving water and dense riparian or emergent vegetation to shallow sections of streams that are not covered with riparian vegetation. While frogs successfully breed in streams, high flows and cold temperatures in streams during the spring often make these sites risky environments for eggs and tadpoles. Barry and Fellers (2013) hypothesized that, given the absence of natural ponds in the Sierra Nevada foothills, it is likely that permanent or near-permanent, quiet pools and backwaters of streams comprise the principal natural breeding and non-breeding CRLF habitat through much of the Sierra Nevada population.

Artificial impoundments, such as stock ponds, that have a vegetative cover and few nonnative predators may also be used by CRLF for breeding (USFWS 2002).

During the summer, adult frogs frequently move from breeding areas to quiet, shaded pools along streams where they use undercut banks, dense thickets, or root masses for shelter. Some frogs spend most of the year in non-breeding habitats. Other adult frogs remain in breeding pools all year (Barry and Fellers 2013).

Aestivation habitat is essential for the survival of CRLF within a watershed when water is not available year-round in breeding habitats. During dry periods, CRLF are rarely encountered far from water (USFWS 1996). Although CRLF can breed in temporary or permanent streams or ponds, populations probably cannot be maintained in temporary water bodies unless the surrounding area contains suitable aestivation habitat as well as migration corridors linking the breeding habitat to the aestivation habitat. CRLF have been observed using migration corridors that consist of undisturbed habitats, such as grasslands and riparian areas, as well as relatively disturbed habitats, such as closely grazed fields, plowed agricultural land, areas with maturing crops, and pastureland. Aestivation habitat must provide sufficient moisture for survival during the nonbreeding season, sufficient cover to moderate temperature extremes, and protection from predators. Logs, downed large branches, exposed tree roots, rodent burrows, and low-lying vegetation are among the habitat elements that provide foraging, aestivation and cover for CRLF (Dodd 2013). Ephemeral channels, which flow only in response to storm events and contain surface water for a few hours or days continuously, are not breeding or aestivation habitat.

Most CRLF do not disperse farther than the nearest suitable non-breeding habitat, but of the CRLF that do move further, the distance traveled is highly site-dependent and influenced by the local landscape (Fellers and Kleeman 2007). In rare instances, CRLF have been documented to travel up to a mile from their breeding areas (Fellers and Kleeman 2007).

Barry and Fellers (2013) conducted an exhaustive study of CRLF in the Sierra Nevada and eastern California. They examined museum collections and historical records, and conducted 213 field surveys at 151 sites over 21 years to evaluate the status of CRLF in the Sierra Nevada. They documented only 20 Sierra Nevada localities and one Cascades Mountain locality where CRLF occurred between 1916 and 1975, extending from Tehama County to Madera County. They surveyed directly or within 3.1 miles of 20 of the 21 historical Sierra Nevada/ Cascades localities. Those surveys resulted in confirming seven recent populations and three recent single-specimen occurrences extending from Butte County southeast to Mariposa County. In El Dorado County, a single adult female was found along Little Silver Creek, a single adult male was found along a Bear Creek tributary, a population was found at a privately-owned pond approximately 1,000 feet downstream of the Bear Creek tributary frog location, and the Spivey Pond population was confirmed. All individual observations of CRLF were located in aquatic habitat. No CRLF were documented in adjacent uplands. Due to limited resources for CRLF in the Sierra Nevada, historical population sizes and numbers have likely always been scarce (Barry and Fellers 2013).

Nonnative aquatic vertebrate and invertebrate predators have been a significant factor in the decline of CRLF. Bullfrogs (*Lithobates catesbeiana*), crayfish (*Procambarus* sp.), and various fish species, especially bass, catfish (*Ictalurus* spp.), sunfish (*Lepomis* spp.), and mosquitofish (*Gambusia affinis*), are predators on one or more life stages of CRLF (USFWS 2002). An experimental study showed that bullfrog tadpoles reduced the survival of red-legged frog tadpoles to less than 5% and suggested that competition was the reason. The study also showed that mosquitofish injured and reduced the growth of tadpoles, but did not affect their survival rate (Cook 1997). The combined effects of both nonnative frogs and nonnative fish often lead to extirpation of CRLF (USFWS 2002). In the Sierra Nevada, chemical pollutants, such as pesticides, may be a major factor in the decline of CRLF (Cook 1997).

Habitat alteration, such as damming of intermittent streams, creating a permanent, warm-water habitat, favors the establishment of bullfrogs and fish to the detriment of CRLF (Cook 1997). Most remaining CRLF populations occur in non-perennial habitats without bullfrogs (Hayes and Jennings 1988). Some of the largest remaining populations of CRLF, however, appear to co-occur with the bullfrog. The areas include several marshes and ponds in coastal habitats. The ability of these two species to co-occur at these locations is likely due to the local climatic conditions, the non-perennial nature of the water bodies, and the rate of predation by one species on the other. The lack of permanent water eliminates the presence of fish and reduces the reproductive success of the bullfrog, which generally requires permanent, warm-water habitat for tadpoles to metamorphose. In several permanent coastal ponds where CRLF and bullfrog co-occur, the year-round cool temperatures may be a key factor in reducing bullfrog reproductive success (Cook 1997).

Range: CRLF are endemic to California and Baja California, Mexico. Its elevation range extends from near sea level to approximately 5,200 feet. Nearly all sightings have occurred below 3,500 feet (USFWS 2002). CRLF historically occurred through Pacific slope drainages from the vicinity of Redding (Shasta County) inland and to Point Reyes (Marin County) southward to the Santo Domingo River drainage in Baja California, Mexico (Jennings and Hayes 1994). CRLF is now known only from isolated localities in the Sierra Nevada, northern Coast, and northern Transverse Ranges (USFWS 2002).

Critical Habitat: Critical habitat has been designated for CRLF in El Dorado County between Camino and Pollock Pines, approximately 1.6 miles northeast of the Action Area (USFWS 2010). The critical habitat designation identifies the physical and/or biological features essential to the conservation of CRLF that may require special management consideration or protection. The features are known as the primary constituent elements, and are as follows:

1) aquatic breeding habitat consisting of standing bodies of fresh water (with salinities less than 4.5 ppt), including natural and manmade ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years;

2) aquatic non-breeding habitat that includes freshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance and aquatic dispersal of juvenile and adult CRLF;

3) upland habitat adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of one mile in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the CRLF. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the aquatic, wetland, riparian habitat; and

4) dispersal habitat that includes accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within one mile of each other, and that support movement between such sites (USFWS 2010).

Recovery Plan: USFWS prepared a Recovery Plan for CRLF to protect existing populations within 8 recovery units throughout California. The Action Area is located in CRLF Recovery Unit 1, which is defined as Sierra Nevada Foothills and Central Valley. Within recovery units are core areas representing 35 focused areas that will allow for long-term viability and reestablishment of CRLF populations. The Action Area is located in a Core Area 4, which is defined as Cosumnes River-South Fork American River (USFWS 2002).

Known Records: There are two CNDDB records for CRLF in the 9-quad area surrounding the Action Area. The closest CNDDB record for CRLF occurs approximately 5 miles northeast of the Action Area at Spivey Pond on North Fork Weber Creek. Adults and tadpoles were observed in July 1997; adults were observed in September 2002; adults and juveniles were observed in September 2007; and adults and juveniles were observed in April 2008.

There are eight records for CRLF in western El Dorado County on the CRLF distribution map in California Amphibian and Reptile Species of Special Concern. Five are based on verified sightings and three are based on museum records (Thomson et al. 2016). The California Academy of Sciences, Department of Herpetology, has no collections of CRLF from El Dorado County (California Academy of Sciences 2017). The University of California, Berkeley Museum of Vertebrate Zoology has five specimens of CRLF from El Dorado County. Four of the specimens were collected in 1935 from a location one mile southeast of Placerville. The fifth specimen was collected in 1961 from a location two miles south of the town of El Dorado (Museum of Vertebrate Zoology 2017).

4.3. Survey Results

No CRLF were observed during the general biological fieldwork conducted in June, July, and October 2012 or during biological monitoring of archaeological surveys in March 2013, January

2016, and June 2017. Nonnative bullfrogs (CRLF predator) were observed in South Fork Weber Creek during fieldwork.

National Park Service biologist, Robert Grasso, conducted eDNA surveys for CRLF at three locations on North Fork Weber Creek and two locations on Weber Creek, approximately 5 and 8 miles downstream of the Action Area. Each site, considered suitable nonbreeding habitat for CRLF (with limited breeding habitat), was surveyed along a 0.1 mile segment of the creek. The only positive detection for CRLF was recorded in North Fork Weber Creek, approximately 0.1 mile downstream of the breeding population of CRLF in Spivey Pond (Pers. comm. Ian Vogel 2017).

The USFWS issued a *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Guidance) in August 2005. The Guidance provides information to assess the likelihood of CRLF presence in the vicinity of a project site. The Guidance recommends that the following questions be answered when assessing habitat for CRLF in the vicinity of a project site:

1. Is the project site within the current or historic range of CRLF?

The Action Area is located in the historic range of CRLF as shown on Figure 3 in the *Recovery Plan for the California Red-legged Frog* (USFWS 2002).

The Action Area is located in the current range of CRLF as shown on Figure 4 in the *Recovery Plan for the California Red-legged Frog* (USFWS 2002).

The Action Area is located within the range of CRLF as illustrated in CDFW's California Wildlife Habitat Relationships System (CWHR 2017).

CRLF appears on the USFWS list that identifies federal-listed species that could potentially occur in or could be affected by projects on the Camino quad (Appendix A).

The Action Area is located within Recovery Unit #1, Sierra Nevada Foothills and Central Valley (USFWS 2002). The Action Area is located in a Core Recovery Area 4, Cosumnes River (USFWS 2002).

There are eight records for CRLF in El Dorado County on the CRLF distribution map in *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016).

There are no CNDDB records for CRLF on the Camino quad.

The Action Area does not occur within CRLF designated critical habitat. One critical habitat unit has been designated for CRLF in El Dorado County (USFWS 2010). The unit is located approximately 1.6 miles northeast of the Action Area.

2. Are there known records of CRLF at the site or within a one mile radius of the site?

There are no known occurrences of CRLF in the Action Area or within one mile of the Action Area.

The closest CNDDB record for CRLF occurs approximately 5 miles northeast of the Action Area. Information about the closest CNDDB record is described above.

The California Academy of Sciences, Department of Herpetology, has no collections of CRLF from El Dorado County (California Academy of Sciences 2017).

The University of California, Berkeley Museum of Vertebrate Zoology has five specimens of CRLF from El Dorado County. Four of the specimens were collected in 1935 from a location one mile southeast of Placerville. The fifth specimen was collected in 1961 from a location two miles south of the town of El Dorado (Museum of Vertebrate Zoology 2017).

3. What are the habitats within the project site and within one mile of the project boundary?

Upland communities in the Action Area are mixed conifer forests, grassland, Himalayan black berry brambles, and paved and dirt roads. Aquatic and riparian communities in the Action Area are South Fork Weber Creek, a perennial channel, several ephemeral channels, a seasonal wetland, and Oregon ash groves. Deep pools in South Fork Weber Creek located downstream of the existing bridge could provide breeding habitat for CRLF. Community types in the Action Area are discussed in Section 3.3.2.

Upland areas within one mile of the Action Area primarily consist of mixed coniferous forest, California annual grassland, rural residential development, and paved and gravel roads.

Aerial images from various dates were examined in Google Earth, and the quad map and USFWS online NWI were examined to determine aquatic habitats within one mile of the Action Area. A total of 7 ponds, South Fork Weber Creek, and Weber Reservoir occur within one mile of the Action Area.

South Fork Weber Creek runs east to west through the one mile radius around the Action Area. Ponds identified in the aerial images, quad map, and NWI map are located 0.12 and 0.22 mile north of the Action Area; 0.8 mile east-northeast of the Action Area, 0.9 mile east of the Action Area, 0.6 mile southeast of the Action Area, 0.7 mile southwest of the Action Area, and 1 mile west-southwest of the Action Area. The two ponds located north of Action Area are the result of impoundments along the perennial channel. Weber Reservoir occurs approximately 0.6 mile north of the Action Area on the North Fork of Weber Creek. Freshwater emergent wetlands occur along the perennial channel between the two ponds north of the Action Area, and 0.9 mile southeast of the Action Area.

There are pools within South Fork Weber Creek, downstream (west of) the existing bridge in the Action Area that are of sufficient depth to provide potential breeding habitat for CRLF, though emergent vegetation is minimal. High flows in South Fork Weber Creek in winter and early spring

are likely not compatible with CRLF breeding and would wash out egg masses. Aquatic habitats within one mile of the Action Area provide potential breeding habitat for CRLF.

4.4. Status of Designated Critical Habitat in the Action Area for CRLF

The Action Area is not within CRLF designated critical habitat. Critical habitat has been designated for CRLF in El Dorado County between Camino and Pollock Pines, approximately 1.6 miles northeast of the Action Area (USFWS 2010).

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Chapter 5. Effects of the Project on the Action Area

5.1. Deconstruct Action

Tables 4 and 5 summarize the habitat types and other features in the Action Area and provide habitat acreages and impact acreages for each bridge alternative. Figures 3A and 3B are proposed Project impact maps for Alternatives 1 and 2, respectively. The Project impacts are estimates based on preliminary engineering.

Table 4. Project Impacts to Natural Communities (Alternative 1)

Natural Community	Acreage	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
Ponderosa Pine Forest	0.652	0.113	0.003	0.116
Douglas Fir Forest	1.389	0.067	0.017	0.084
Oregon Ash Groves	1.121	0.264	0.186	0.450
California Annual Grassland	0.780	0.135	0.001	0.136
Himalayan blackberry brambles	0.424	0.192	0.005	0.197
South Fork Weber Creek	0.469	0.012	0.119	0.131
Perennial Channel	0.013	0.006	0.003	0.009
Ephemeral Channels	0.007	0	0	0
Upland Ditches	0.019	0.004	0.001	0.005
Seasonal Wetland	0.009	0	0	0
Paved and Gravel Roads/ Driveways [1]	0.868	--	--	--
Total:	5.752	0.793	0.335	1.128

[1] Previously disturbed community, thus no impacts are calculated.

Table 5. Project Impacts to Natural Communities (Alternative 2)

Natural Community	Acreage	Temporary Impact (ac)	Permanent Impact (ac)	Total Impact (ac)
Ponderosa Pine Forest	0.652	0.113	0.004	0.117
Douglas Fir Forest	1.389	0.186	0.050	0.236
Oregon Ash Groves	1.121	0.255	0.240	0.495
California Annual Grassland	0.780	0.155	0.003	0.158
Himalayan blackberry brambles	0.424	0.186	0.012	0.198
South Fork Weber Creek	0.469	0.005	0.139	0.144
Perennial Channel	0.013	0.007	0.002	0.009
Ephemeral Channels	0.007	0.001	0	0.001
Upland Ditches	0.019	0.005	0.001	0.006
Seasonal Wetland	0.009	0	0	0
Paved and Gravel Roads/ Driveways [1]	0.868	--	--	--
Total:	5.752	0.914	0.447	1.364

[1] Previously disturbed community, thus no impacts are calculated.

5.1.1. Construction Scenario (summary)

General Construction

Under Alternative 1, bridge construction and road widening on a slightly shifted alignment, widening of an existing driveway, installation of RSP, and realignment of South Fork Weber Creek and the perennial channel would result in permanent impacts in the Action Area. Construction access, placement of a temporary diversion, demolition of the existing bridge and abutments, staging of vehicles and equipment, grading and fill, and overhead utility relocation would result in temporary impacts.

Under Alternative 2, bridge construction and road widening on a slightly shifted alignment, widening of an existing driveway and construction of a driveway retaining wall, installation of RSP, and realignment of South Fork Weber Creek would result in permanent impacts in the Action Area. Construction access, placement of a temporary diversion and falsework, demolition of the existing bridge and abutments, staging of vehicles and equipment, grading and fill, and overhead utility relocation would result in temporary impacts.

Temporary construction easements or right of entry would be required from adjacent properties for either alternative selected. Permanent easements may be required for relocating existing utility poles and raising overhead lines. One utility pole located north of the existing west road approach would likely be relocated, which may require vegetation removal within the vicinity of the pole. At the discretion of the utility provider, additional poles to the east and west may need to be relocated.

Staging would be available to the contractor in the flat area northeast of the existing bridge. It is anticipated that Newtown Road would be closed at the Project site and a detour would be provided for emergency use during construction. Public traffic, except for the existing driveway at the southeast corner of the bridge, would use Old Fort Jim Road as a detour. One-way access (towards Pleasant Valley Road) would be maintained at all times during construction to the existing driveway at the southeast corner of the bridge.

Construction would begin with clearing and grubbing of areas to be excavated, built-up, or recontoured. Excavation depth for roadway improvements and staging area preparation would not exceed 1.5 feet. A water diversion (see discussion below) would be in place prior to bridge demolition. Bridge demolition would likely involve jack-hammering, ramming (with a mechanical ram mounted on a backhoe), temporary shoring, and crane work. The existing bridge, including abutments, and the concrete and corrugated metal pipe in the bed of South Fork Weber Creek would be removed. Existing abutments may be cut below final stream grade and covered with native river rock. All debris generated by bridge demolition would be removed from the dry streambed and disposed of at a County-approved, or commercially-approved facility.

The existing toe of slope gutters would be enlarged and an underdrain would be installed at the edge of road pavement in areas below the existing cut slopes. Drainage ditches are not expected to be greater than 4 feet deep. Surface water from the roadway, its graded shoulders, and the embankment slopes would be directed away from the bridge.

Best management practices would be implemented during construction to prevent concrete or other materials from entering South Fork Weber Creek and the perennial channel. General bridge construction equipment expected to be used includes, but is not limited to: haul trucks, cranes, excavators, gradalls, backhoes, dump delivery trucks, concrete boom pump, and service vehicles. Use of rock-breaking equipment is anticipated for excavations into rock.

Stream Diversion

Since there is the potential for flow in South Fork Weber Creek and the perennial channel during construction, the Contactor will be required to install a temporary stream crossing and clear water diversions in accordance with Caltrans' California Storm Water Quality Handbooks, Construction Site Best Management Practices Manual (2003). BMP NS-4 "Temporary Stream Crossing" and BMP NS-5 "Clear Water Diversion" will facilitate the work in the creeks while minimizing erosion, sedimentation, and other water quality concerns.

This report is using the term "diversion" for the re-routing of flowing water. Dewatering is the pumping of standing water, either in pools in the creek, behind a water diversion, or in the excavation pits dug for the new abutment foundations.

Diversion materials and design would be selected by the contractor. Diversions may consist of culverts, diversion dams, etc. Typical diversion materials include gravel-filled bags and visqueen plastic sheets, or comparable materials. If pipes are used for South Fork Weber Creek, the pipes

would be positioned to allow free passage of fish through the work zone and would be appropriately sized.

South Fork Weber Creek transitions from intermittent to perennial at its confluence with the perennial channel, just upstream of the existing bridge. Flows in South Fork Weber Creek are naturally very low (<1 cfs) during summer months of normal rainfall years. Flow was not sufficient to accommodate fish passage in July and October 2012. Although the perennial channel appears to flow year-round, it transports only a small amount of water and does not contain pools or provide habitat for fish. The bed of South Fork Weber Creek is composed of bedrock and large cobble. The potential for increased erosion and scour due to stream diversion is minimal. Any stream diversion would be erected and maintained until all in-stream work is complete or such time that the high stream flows require disassembly and removal from the stream corridor.

To avoid the bridge construction area, the perennial channel may be diverted using either diversion culverts or diversion dams. Diversion would be either 1) to the east where it would empty into an upstream segment of South Fork Weber Creek, or 2) to the west across Newtown Road where it would empty into South Fork Weber Creek downstream of proposed construction activities. A diversion to downstream of the existing bridge may minimize the amount of water in the construction zone. South Fork Weber Creek annually dries up upstream of the existing bridge by late spring, so fish passage upstream is not an issue of concern.

Groundwater may be encountered during excavations, most likely at the footings for the bridge or culvert structure, or the retaining walls. Pumps may be used to pump water from within the work area. Appropriate measures would be taken to avoid impacts to aquatic animals. Dewatering would be in accordance with Caltrans' BMP NS-02 "Dewatering Operations" and may include the use of SC-02 or SC-03, Sedimentation/Desilting Basins or Sediment Traps, respectively. Clean, non-turbid water would be returned to the creek. Turbid water would be detained in a storage basin until it has settled, at which time it would be returned to the creek.

Upon completion of construction activities within the creek bed, the temporary diversion structures would be removed. Portions of the creek banks temporarily impacted would be revegetated for erosion control. Specific revegetation methods are described in the Revegetation Planting and Erosion Control Specifications (Appendix H). A Replanting Plan is in Appendix I.

5.1.2. Sequencing and Schedule

Construction of the proposed bridge is planned to commence in 2019 or later. Relocation of utilities may require the County, utility provider, or their contractors to trim or remove trees prior to construction. Project duration is expected to be one season. It is anticipated that Newtown Road would be closed for approximately 8 months during construction.

Work within the OHWM of South Fork Weber Creek would be restricted to the dry season, generally defined as the time period between 15 April and the first qualifying rain event on or after 15 October (more than one half inch of precipitation in a 24-hour period), subject to the Streambed Alteration Agreement, unless CDFW provides approval of work outside that period.

5.1.3. Stressors from Project Actions

Stressors induce an adverse response in an organism by any physical, chemical, or biological alteration of the environment (or resource) that can lead to a response from the individual. Stressors can act directly on an individual, or indirectly through effects to resources. Exposure to stressors is discussed in Section 5.2 below.

Based on the marginal breeding habitat in the Action Area, the sparsity of CRLF in the Sierra Nevada, the lack of records within the typical dispersal distance of CRLF, and the results of the eDNA surveys, it is unlikely that CRLF would occur in the Action Area. If any CRLF were to occur in the Action Area, Project-related stressors that could affect CRLF may be distinguished between construction and operations. Construction stressors include riparian vegetation removal, installation of a water diversion, grading, and exposure to construction personnel and equipment. Post-construction stressors include the use of RSP in and adjacent to the creeks and some conversion of habitat to hardscape.

Approximately 0.186 to 0.240 acre of the Oregon ash groves riparian community would be permanently impacted as a result of bridge and road widening and RSP installation. Approximately 0.255 to 0.264 acre of Oregon ash groves would be temporarily impacted due to grading and vegetation clearing, including tree removal. An estimated 33 to 34 trees in the riparian community along South Fork Weber Creek would be removed (Figures 5A and 5B). These impacts would cause a minor reduction of riparian habitat. South Fork Weber Creek in the Action Area, which serves as the most important habitat component for CRLF breeding and foraging, would not be destroyed.

Approximately 0.119 to 0.139 acre of South Fork Weber Creek and 0.002 to 0.003 acre of the perennial channel would be permanently impacted as a result of channel realignment and RSP installation (Table 6). Under Alternative 1, approximately 40 feet of the perennial channel would be permanently filled. The perennial channel would be reconstructed along a new alignment approximately 110 feet long, which would reconnect to South Fork Weber Creek, east (upstream) of the new bridge. These impacts would not substantially reduce the availability of aquatic habitat in the Action Area.

Approximately 0.005 to 0.012 acre of temporary impacts to South Fork Weber Creek would occur as a result of the Project. In-channel work would be restricted to the dry season. South Fork Weber Creek is intermittent upstream of the confluence with the perennial channel in the Action Area, and perennial downstream of this point. Diversion of South Fork Weber Creek through the Action Area is expected to allow construction equipment access to remove the existing bridge foundation and construct the new foundations. Placement of falsework for Alternative 2, demolition of the existing bridge and abutments, and construction of the new abutments may also temporarily impact South Fork Weber Creek.

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Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 5A.
Tree Impact Map (Alternative 1)

- Action Area (5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- Existing Culvert
- Oregon Ash Groves (OAG)
- Tree Location and Tag Number
- Tree to be Removed
- Permanent Impact
- Temporary Impact

40 20 0 40 Feet

Scale: 1 inch = 40 feet

N

Topographic basemap:
XSurface.dwg (10 Nov 2015) by El Dorado County DOT
Alternatives: VeerkampSmeltzer Alt A.dwg (19 Jan. 2017)
Parcels and Roads: El Dorado County, GIS datasets

Aerial Photograph: 11 July 2016
NAIP 2016, USDA FSA Imagery
ESRI ArcGIS Basemap Service layer

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Newtown Road at
South Fork Weber Creek
Bridge (25C-0033)
Replacement Project
El Dorado County, CA
13 November 2017

Figure 5B.
Tree Impact Map (Alternative 2)

- Action Area (5.75 ac)
- South Fork Weber Creek
- Perennial Channel
- Seasonal Wetland
- Ephemeral Channel (EC)
- Upland Ditches
- ===== Existing Culvert
- Oregon Ash Groves (OAG)
- Tree Location and Tag Number
- Tree to be Removed
- Permanent Impact
- Temporary Impact

40 20 0 40 Feet

Scale: 1 inch = 40 feet

N

Alternatives: CREEKBED-ALTERNATIVE 2.dwg (10 Feb. 2017)
Parcels and Roads: El Dorado County, GIS datasets

Aerial Photograph: 11 July 2016
NAIP 2016, USDA FSA Imagery
ESRI ArcGIS Basemap Service layer

10066NewtownRd@SouthForkWeberCk_BA_ALT2Fig5BTreeImpactMap_v2.mxd

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Approximately 0.006 to 0.007 acre of temporary impacts to the perennial channel would occur as a result of construction access and staging. A temporary crossing would be constructed over the perennial channel to allow vehicles, equipment, and personnel access on both sides of the channel. Temporary channel impacts were identified based on preliminary engineering and include the footprint of the construction impact.

Table 6. RSP Placement in South Fork Weber Creek, Perennial Channel, and Riparian Habitat (Oregon Ash Groves Community) in the Action Area.

Alternative	Total RSP (acre)	RSP Below OHWM (acre)	
		South Fork Weber Creek	Perennial Channel
Alternative 1	Riparian – 0.031	0.119 (350 linear feet)	0
	Creek (inside Conspan) – 0.063		
	Creek (outside Conspan) – 0.056		
	0.150 (total)		
Alternative 2	Riparian – 0.186	0.139 (405 linear feet)	0.002 (20 linear feet)
	Weber Creek – 0.139		
	0.325 (total)		

If CRLF are present in the Action Area, they may be directly affected by construction activity in the creek or riparian areas. Work in the creek, and nearby in riparian areas could put CRLF in danger of being injured by construction personnel or equipment. Activity in the creek has the potential to reduce water quality in or downstream of the Action Area, which could affect CRLF if present in, or downstream of, the Action Area.

Implementation of measures described in Section 1.4.5 would minimize potential impacts to CRLF and their habitat.

5.1.4. Project Operation and Maintenance

Upon completion of the new bridge, maintenance activities would include standard road and bridge maintenance activities such as paving, shoulder work, and removal of debris from around the bridge, as needed. Any water diversion system would be removed after bridge construction and the Project site would be restored to approximate original conditions. Areas that are temporarily impacted during construction would be restored to pre-project conditions and temporarily disturbed sections of the creek and riparian area would be revegetated with native species appropriate for the habitat.

5.2. Exposure to Stressors from the Action

Exposures are defined as the interaction of the species, their resources, and the stressors that result from the Project action. Based on the marginal breeding habitat in the Action Area, the sparsity of CRLF in the Sierra Nevada, the lack of records within the typical dispersal distance of CRLF, and the results of the eDNA surveys, it is unlikely that CRLF would occur in the Action Area. If any CRLF were to occur in the Action Area, they could be exposed either directly or indirectly to stressors.

If CRLF are present in the Action Area during the construction period, direct interactions could include endangerment of individuals by construction equipment or personnel. These interactions would be limited by the implementation of measures provided in Section 1.4.5.

Indirect interactions from the proposed action include the temporary and permanent alteration of potential CRLF habitat. Any CRLF present during construction may be indirectly affected due to reduced vegetative cover and/or reduced access to aquatic habitat as a result of creek diversion. These stressors are temporary, as temporarily disturbed areas would be revegetated and water flow would be restored upon completion of the Project. In-water work could result in impacts to water quality and stream function. Conservation measures in Section 1.4.5 address these issues to reduce impacts to South Fork Weber Creek.

Vegetation removal in the Oregon ash groves riparian community could result in indirect effects to CRLF by reducing the amount of vegetative cover in or near their habitat during construction. Vegetation removal could reduce protective cover and expose CRLF to an increased risk of predation. Tree removal would be minimized to the extent possible. Protective cover will be available in the riparian habitat adjacent to the Action Area. The temporarily disturbed areas on the banks of South Fork Weber Creek would be hydroseeded immediately following Project completion. Implementation of the Replanting Plan (Appendix I) will revegetate the Oregon ash groves community.

Placement of RSP will alter the substrate of aquatic habitat and the immediately adjacent uplands. CRLF use of RSP is not well known. Pole cuttings of willows will be planted in the RSP to help revegetate the habitat.

While small amounts of riparian habitat would be permanently altered due to the slightly shifted alignment and widening of Newtown Road, the overall function of CRLF habitat in the Action Area would not be permanently affected. An overall increase in aquatic habitat would result from the Project as the existing bridge abutments currently constrict the width of the ravine below the bridge. The morphology of South Fork Weber Creek would not be altered to an extent that significantly changes water velocity in the creek. The confluence of the perennial channel and South Fork Weber Creek would remain upstream of the bridge, resulting in similar water inputs to South Fork Weber Creek below the new bridge and immediately upstream. CRLF in the Action Area would encounter habitat conditions of equivalent value after completion of the Project.

5.3. Response to the Exposure

Based on the marginal breeding habitat in the Action Area, the sparsity of CRLF in the Sierra Nevada, the lack of records within the typical dispersal distance of CRLF, and the results of the eDNA surveys, it is unlikely that CRLF would occur in the Action Area. Additionally, CRLF would not be expected to use South Fork Weber Creek when this feature is dry. South Fork Weber Creek upstream of the confluence of the perennial channel is typically dry in mid to late summer.

If CRLF are present in the Action Area during construction, individuals may exhibit a behavioral response to construction equipment and personnel by avoiding the area or fleeing if already present when construction begins. If construction activities prevent CRLF from moving through aquatic habitat, they may desiccate if movement through dry habitat is the only option. Potential physical responses include bodily injury to individuals if they are accidentally crushed by construction equipment or personnel. With implementation of the conservation measures described in Section 1.4.5, these responses are unlikely to occur.

5.4. Effects of the Action

Effect is a description of the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative effect (50 CFR 402.02). The effect of the action is the consequence (behavioral, physical, or physiological) of a response to a stressor.

As described above, the proposed Project may result in temporary disturbance to potential seasonal/dispersal habitat for CRLF. Most potential impacts to the habitat are temporary, and affected areas would be restored upon completion of construction. Permanent impacts to the habitat, including conversion of 0.186 to 0.240 acre of the Oregon ash groves riparian community and 0.119 to 0.139 acre of South Fork Weber Creek to wider road approaches, a larger bridge, and installation of RSP would not significantly reduce the habitat quality for CRLF. The quantity of impacts to the habitat are minimal compared to the available surrounding habitat.

If CRLF are present during construction, they may be exposed to direct effects such as injury by construction equipment and activities. The conservation measures presented in Section 1.4.5 would be implemented to reduce the potential for CRLF to be directly or indirectly affected by the Project.

Due to the sparsity of CRLF in the Sierra Nevada, the lack of suitable breeding habitat in the Action Area, the lack of records within the typical dispersal distance of CRLF, and negative results of recent eDNA sampling in North Fork Weber Creek and Weber Creek, the Project may affect, but is not likely to adversely affect, CRLF. The Project would have no effect on critical habitat.

5.5. Conservation Measures and Compensation Proposal

5.5.1. Conservation Measures

Implementation of measures described in Section 1.4.5 would minimize potential impacts to CRLF and their habitat.

5.5.2. Compensation

No compensatory mitigation is proposed.

5.6. Effects of Interrelated and Interdependent Actions/Conclusions and Determination

Interrelated actions - actions that are part of a larger action and depend on the larger action for their justification [50 CFR §402.02] (i.e., this project would not occur "but for" a larger project). Interrelated actions are typically associated with the proposed action. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification.

Interdependent actions - actions having no independent utility apart from the proposed action [50 CFR §402.02]. Interdependent actions are those that have no independent utility apart from the action under consideration.

No project interrelated or interdependent actions were identified that would impact CRLF.

5.7. Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area described in this BA. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Act.

No current, reasonably foreseeable, non-federal actions having the potential to affect CRLF have been identified in the Action Area. This Project would not encourage changes to existing land use patterns.

5.8. Determination

5.8.1. Species and critical habitat determination

1.) No Effect

A no effect determination was made for the following species. No consultation is required.

- Delta smelt (*Hypomesus transpacificus*) T
- Delta smelt critical habitat

- Northern California steelhead DPS (*Oncorhynchus mykiss*) T
- Northern California steelhead DPS critical habitat
- Sierra Nevada yellow-legged frog (*Rana sierrae*) E
- Sierra Nevada yellow-legged frog critical habitat
- California red-legged frog critical habitat
- Pacific salmon EFH

2.) May Affect – Not Likely to Adversely Affect (NLAA)

A may affect, likely to adversely affect, determination was made for the following species. Informal consultation is required.

- California red-legged frog (CRLF; *Rana draytonii*) T

5.8.2. Discussion supporting determination

It was determined that the proposed action would have no effect on the federally listed species or critical habitat listed above because the Action Area contains no suitable habitat or the Project is outside of the range of these species.

It was determined that the project may affect, but is not likely to adversely affect, CRLF due to impacts to potential habitat within the mapped range of the species. CRLF are not expected to occur in the Action Area due the sparsity of CRLF in the Sierra Nevada, the a lack of suitable breeding habitat in the Action Area, the lack of records within the typical dispersal distance of CRLF, and negative results of recent eDNA sampling in North Fork Weber Creek and Weber Creek. The Project would have no effect on critical habitat. Critical habitat for CRLF does not occur in the Action Area.

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United States Department of the Interior

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In Reply Refer To: February 26, 2018
Consultation Code: 08ESMF00-2017-SLI-0777
Event Code: 08ESMF00-2018-E-03843
Project Name: Newtown Road at South Fork Weber Creek Bridge Replacement Project

Subject: Updated 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: 08ESMF00-2017-SLI-0777

Event Code: 08ESMF00-2018-E-03843

Project Name: Newtown Road at South Fork Weber Creek Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: The Project will include (but not be limited to): bridge removal and construction, earthwork, road approach improvements, stream diversion/ dewatering, and vegetation clearing.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.7073479137597N120.68184109122168W

Counties: El Dorado, 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. 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.

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2891

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/321

Critical habitats

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

From: Allie Sennett
To: nmfswcrca.specieslist@noaa.gov
Bcc: 10066 Newtown Rd @ S Fork Weber Crk
Subject: FHWA-Caltrans - Newtown Road Bridge at South Fork Weber Creek Replacement Project
Date: Friday, February 24, 2017 4:40:00 PM

NMFS Species List

Federal Agency: Federal Highway Administration – California Division
Federal Agency Address: 650 Capitol Mall, Suite 4-100, Sacramento, CA 95814-4708
Non-Federal Agency Representative: California Department of Transportation
Non-Federal Agency Address: 703 B Street, Marysville, CA 95901
Project Name: El Dorado County's Newtown Road Bridge at South Fork Weber Creek Replacement Project (BRLO-5925 (086))
Point-of-Contact: Jennifer Osmondson, Jennifer_Osmondson@dot.ca.gov, (530) 740-4807

Quad Name **Camino**
Quad Number **38120-F6**

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

Allie Sennett
Biologist
allie.sennett@sycamoreenv.com

Sycamore Environmental Consultants, Inc.
6355 Riverside Blvd., Suite C.
Sacramento, CA 95831
(916) 427-0703

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Garden Valley (3812077) OR Slate Mtn. (3812076) OR Pollock Pines (3812075) OR Placerville (3812067) OR Camino (3812066) OR Sly Park (3812065) OR Fiddletown (3812057) OR Aukum (3812056) OR Omo Ranch (3812055))
 AND Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Packera layneae	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Layne's ragwort						
Rana draytonii	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California red-legged frog						
Rana sierrae	AAABH01340	Endangered	Threatened	G1	S1	WL
Sierra Nevada yellow-legged frog						

Record Count: 3

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CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

1 matches found. Click on scientific name for details

Search Criteria

FESA is one of [Endangered, Threatened, Candidate], Found in Quads 3812077, 3812076, 3812075, 3812067, 3812066, 3812065, 3812057 3812056 and 3812055;

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
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	1B.2	S2	G2

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 26 February 2018].

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The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

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Photo 1. View east along Newtown Road from the intersection of Paso Way. Oregon ash grove on right. 27 July 2012.

Photo 2. View west along Newtown Road from the eastern end of the BSA. Douglas fir forest on left; Oregon ash grove on right. 12 June 2012.

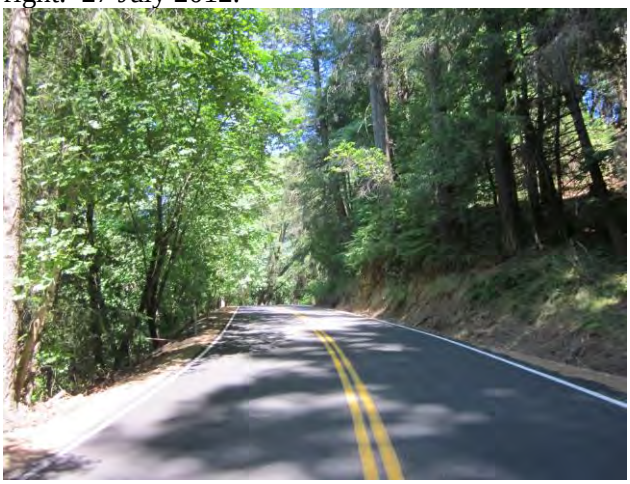

Photo 3. View east along Newtown road near eastern end of BSA. Oregon ash grove on left; Douglas fir forest on right. 12 June 2012.

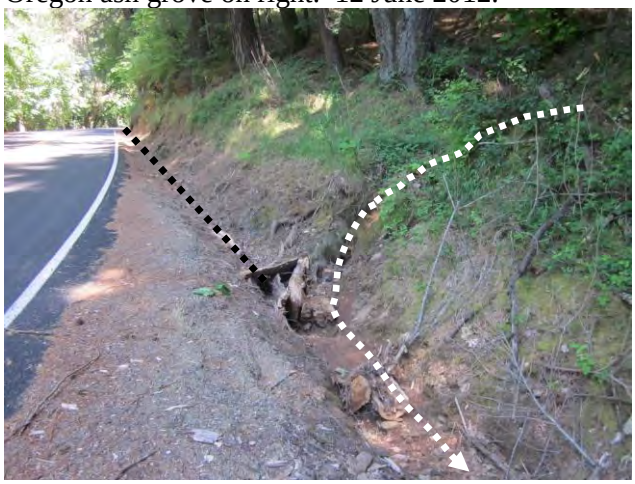

Photo 4. View southeast toward Non-RPW-1 (dotted white line) confluence with UD-1 (dotted black line). Newtown Road on left. 12 June 2012.

Photo 5. View northwest (looking downstream) toward Non-RPW 2. South Fork Weber Creek in background. 12 June 2012.

Photo 6. View east in the southwest portion of BSA. California annual grassland in foreground. South Fork Weber Creek (out of view) and Oregon ash grove on left. 12 June 2012.

Photo 7. View east toward California annual grassland between Newtown Road (shown) and Paso Way (out of view on left). 12 June 2012.

Photo 8. View north from the northeast corner of the bridge. Blackberry brambles shown. 12 June 2012.

Photo 9. View west toward the seasonal wetland. Blackberry brambles in background. 12 June 2012.

Photo 10. View west toward Newtown Road Bridge over South Fork Weber Creek. 12 June 2012.

Photo 11. View looking east along South Fork Weber Creek, upstream of the Newtown Bridge. 12 June 2012.

Photo 12. View east along South Fork Weber Creek near western end of the BSA. Oregon ash grove occurs along the creek. 12 June 2012.

Appendix F Regional Species and Habitats of Concern

Regional Species and Habitats of Concern

Scientific Name	Common Name	Federal Status[a]	State Status[a]	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Fish						
Hypomesus transpacificus	Delta smelt	T, CH	E	Euryhaline (tolerant of a wide salinity range) species confined to the San Francisco Estuary, principally in Delta and Suisun Bay. Currently found only from San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo cos. Can wash into San Pablo Bay during high-outflow periods, but do not establish permanent populations there (Moyle 2002).	A	The Action Area is outside the geographic range of this species. There is no habitat for this species in the Action Area. Critical habitat for this species does not occur in the Action Area (USFWS 2017a).
Oncorhynchus mykiss	Northern California steelhead distinct population segment (DPS)	T, CH	--	Fish that exhibits both anadromy and freshwater residency. Capable of spawning more than once. Typically spawn between December and June (NMFS 2000). This DPS includes all naturally spawned populations of steelhead in California coastal river basins from Redwood Creek southward to, but not including, the Russian River, and two artificial propagation programs: the Yager Creek Hatchery and North Fork Gualala River Hatchery (NMFS 2006). In contrast to other steelhead, summer-run enter their natal rivers in spring or summer while immature, mature over the summer in deep pools, and then spawn the following winter or spring. Summer run steelhead have been recorded in the Mattole River (Moyle 2002).	A	The Action Area is outside the range of this species. Critical habitat for this species does not occur in the Action Area (USFWS 2017a).

Scientific Name	Common Name	Federal Status[a]	State Status[a]	General Habitat Description	Habitat Present/ Absent [b]	Rationale
Amphibians						
Rana draytonii	California red-legged frog	T, CH	SSC	Occurs in and along the Coast Ranges from Mendocino Co. south and in portions of the Sierra Nevada and Cascade ranges, usually below 3,936 ft. Sierra Nevada distribution is restricted and consists of small numbers of individuals. Inhabits ponds and quiet pools in streams and marshes. Prefers densely vegetated shorelines. Requires permanent or nearly permanent pools for larval development which takes 11 to 20 weeks (CWHR 2017).	HP	See discussion.
Rana sierrae	Sierra Nevada yellow-legged frog	E, CH	T, SSC	Occurs in the Sierra Nevada from Plumas Co. to Fresno Co, north of the ridge dividing the middle and south forks of the Kings River and east of the Sierra Nevada crest from 4,500 ft to over 11,980 ft. Associated with streams, lakes, and ponds in montane riparian, lodgepole pine, sub-alpine conifer, and wet meadow habitat types. They are rarely found more than 3.3 feet from water (USFWS 2016b). Aquatic non-breeding habitat should contain stream, stream reaches, or wet meadows that are hydrologically connected to breeding and foraging sites (USFWS 2016a).	A	The Action Area is below the elevation range of this species. There is no habitat for this species in the Action Area. Critical habitat for this species does not occur in the Action Area (USFWS 2017).

[a] **Status**: Endangered (E); Threatened (T); Proposed (P); Candidate (C), Delisted (D), Fully Protected (FP); Rare (R); State Species of Special Concern (SSC); Proposed Critical Habitat (PCH); Critical Habitat (CH) – Critical habitat has been designated for this species.

[b] Absent [A] = No habitat present and no further work needed. Habitat Present [HP] = Habitat is, or may be present. The species may be present. Present [P] = The species is present. Critical Habitat [CH] = The project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Appendix G Plant and Wildlife Species Observed

Plant Species Observed

FAMILY	SCIENTIFIC NAME	COMMON NAME	N/I [1]	CAL-IPC RATING [2]
FERNS				
Blechnaceae	*Woodwardia fimbriata*	Giant chain fern	N	
Dennstaedtiaceae	*Pteridium aquilinum* var. *pubescens*	Bracken	N	
Equisetaceae	*Equisetum arvense*	Common horsetail	N	
	Equisetum hyemale ssp. *affine*	Common scouring rush	N	
Pteridaceae	*Pentagramma triangularis*	Goldback fern	N	
Woodsiaceae	*Athyrium filix-femina* var. *cyclosorum*	Lady fern	N	
	Cystopteris fragilis	Fragile fern	N	
GYMNOSPERMS				
Cupressaceae	*Calocedrus decurrens*	Incense cedar	N	
Pinaceae	*Pinus ponderosa*	Ponderosa pine	N	
	Pseudotsuga menziesii var. *menziesii*	Douglas-fir	N	
EUDICOTS				
Amaranthaceae	*Amaranthus albus*	Tumbleweed	I	
Anacardiaceae	*Toxicodendron diversilobum*	Western poison oak	N	
Apiaceae	*Osmorhiza berteroi*	Sweet-Cicely	N	
	Osmorhiza brachypoda	Sweet-Cicely	N	
	Sanicula crassicaulis	Sanicle	N	
	Tauschia hartwegii	Tauschia	N	
	Torilis arvensis	Tall sock-destroyer	I	Moderate
	Torilis nodosa	Short sock-destroyer	I	
Apocynaceae	*Vinca major*	Greater periwinkle	I	Moderate
Asteraceae	*Agoseris* sp.		N	
	Centaurea solstitialis	Yellow star-thistle	I	High
	Chondrilla juncea	Skeleton weed	I	Moderate
	Cirsium vulgare	Bull thistle	I	Moderate
	Eriophyllum lanatum var. *grandiflorum*	Common woolly sunflower	N	
	Hieracium	Hawkweed	N	
	Hieracium albiflorum	White hawkweed	N	
	Hypochaeris glabra	Smooth cat's-ear	I	Limited
	Lactuca serriola	Prickly lettuce	I	
	Leontodon saxatilis	Hairy hawkbit	I	
	Leucanthemum vulgare	Ox-eye daisy	I	Moderate
	Madia gracilis	Gumweed	N	
	Madia subspicata		N	
	Pseudognaphalium beneolens		N	
	Sonchus oleraceus	Common sow thistle	I	
	Taraxacum officinale	Common dandelion	I	
	Tragopogon sp.	Salsify	I	
Berberidaceae	*Berberis* sp. [3]		--	
Betulaceae	*Alnus rhombifolia*	White alder	N	
	Corylus cornuta ssp. *californica*	California hazel	N	
Boraginaceae	*Cynoglossum grande*	Grand hound's tongue	N	
	Hydrophyllum occidentale		N	
	Nemophila pulchella		N	
Boraginaceae	*Phacelia* cf. *hastata/mutabilis*		N	
Brassicaceae	*Barbarea verna*	Early winter cress	I	
	Cardamine oligosperma		N	
	Lunaria annua	Money plant	I	

	Nasturtium officinale	Water cress	N	
Caprifoliaceae	*Lonicera interrupta*	Honeysuckle	N	
	Lonicera hispidula	Honeysuckle	N	
	Symphoricarpos sp.	Snowberry	N	
Caryophyllaceae	*Lychnis coronaria*	Rose campion	I	
	Stellaria media	Common chickweed	I	
Chenopodiaceae	*Dysphania botrys*	Jerusalem oak	I	
Convolvulaceae	*Convolvulus arvensis*	Bindweed, orchard morning-glory	I	
Cornaceae	*Cornus sericea*	American dogwood	N	
Cucurbitaceae	*Marah* sp.	Man-root	N	
Datiscaceae	*Datisca glomerata*	Durango root	N	
Ericaceae	*Arbutus menziesii*	Pacific madrone	N	
	Arctostaphylos viscida	Manzanita	N	
Euphorbiaceae	*Chamaesyce maculata*	Spotted spurge	I	
	Croton setigerus	Turkey-mullein	N	
Fabaceae	*Acmispon americanus* var. *americanus*		N	
	Lathyrus sulphureus		N	
	Lathyrus latifolius	Perennial sweet pea	I	
	Medicago lupulina	Black medick	I	
	Melilotus indicus	Sourclover	I	
	Trifolium ciliolatum	Foothill clover	N	
	Trifolium dubium	Little hop clover	I	
	Trifolium hirtum	Rose clover	I	Moderate
	Trifolium sp.	Clover	--	
	Trifolium subterraneum	Subterranean clover	I	
	Vicia villosa ssp. *villosa*	Vetch	I	
Fagaceae	*Quercus chrysolepis*	Maul oak, canyon live oak	N	
	Quercus kelloggii	California black oak	N	
	Quercus lobata	Valley oak, roble	N	
	Quercus wislizeni var. *wislizeni*	Interior live oak	N	
Geraniaceae	*Erodium cicutarium*	Redstem filaree	I	Limited
	Geranium molle		I	
Grossulariaceae	*Ribes* sp.	Gooseberry	N	
Hydrangeaceae	*Philadelphus lewisii*	Wild mock orange	N	
Hypericaceae	*Hypericum perforatum* ssp. *perforatum*	Klamathweed	I	Moderate
Juglandaceae	*Juglans hindsii* [4]	Northern California black walnut	N	
Lamiaceae	*Lavandula* sp. [3]	Lavender	I	
	Melissa officinalis	Lemon balm	I	
	Mentha spicata	Spearmint	I	
	Prunella vulgaris		--	
	Stachys sp.	Hedge nettle	N	
	Trichostema sp.	Blue curls	N	
Montiaceae	*Claytonia parviflora*		N	
Moraceae	*Ficus carica*	Edible fig	I	Moderate
Myrsinaceae	*Anagallis arvensis*	Scarlet pimpernel	I	
	Trientalis latifolia		N	
Oleaceae	*Fraxinus latifolia*	Oregon ash	N	
Onagraceae	*Circaea alpina* ssp. *pacifica*	Enchanter's nightshade	N	
	Clarkia biloba ssp. *biloba*		N	
	Epilobium ciliatum ssp. *ciliatum*	Willowherb	N	
	Epilobium sp.	Willowherb	N	
Papaveraceae	*Eschscholzia californica*	California poppy	N	
Phrymaceae	*Mimulus cardinalis*		N	
	Mimulus guttatus		N	
Plantaginaceae	*Kickxia* sp.		I	
	Plantago lanceolata	English plantain	I	Limited

	Veronica americana	American brooklime	N	
	Veronica anagallis-aquatica	Water speedwell	I	
Polemoniaceae	*Collomia heterophylla*	Variable-leaf collomia	N	
Polygonaceae	*Eriogonum nudum* var. *nudum*	Naked wild buckwheat	N	
	Polygonum aviculare ssp. *depressum*		I	
	Rumex acetosella	Sheep sorrel	I	Moderate
	Rumex crispus	Curly dock	I	Limited
	Rumex obtusifolius	Bitter dock	I	
Ranunculaceae	*Aquilegia formosa*		N	
	Clematis ligusticifolia	Western virgin's bower	N	
	Delphinium gracilentum	Slender or Greene's larkspur	N	
Rhamnaceae	*Ceanothus cuneatus* var. *cuneatus*	Buckbrush	N	
Rosaceae	*Holodiscus discolor* var. *discolor*	Oceanspray	N	
	Malus pumila [3]	Apple	I	
	Oemleria cerasiformis		N	
	Potentilla sp.		N	
	Prunus sp.	Cherry	--	
	Pyrus communis	Common pear	I	
	Rosa sp.	Rose	N	
	Rubus armeniacus	Himalayan blackberry	I	High
	Rubus glaucifolius	Waxleaf raspberry	N	
	Rubus laciniatus	Cutleaf blackberry	I	
	Rubus leucodermis	Whitebark raspberry	N	
Rubiaceae	*Galium aparine*	Goose grass	N	
	Galium porrigens var. *tenue*		N	
	Galium triflorum	Sweet-scented bedstraw	N	
Salicaceae	*Salix exigua*	Narrow-leafed willow	N	
	Salix laevigata	Red willow	N	
	Salix lasiolepis	Arroyo willow	N	
Sapindaceae	*Acer macrophyllum*	Big-leaf maple	N	
Saxifragaceae	*Heuchera micrantha*		N	
Scrophulariaceae	*Scrophularia* sp.	California figwort	N	
	Verbascum blattaria	Moth mullein	I	
	Verbascum thapsus	Woolly mullein	I	Limited
Vitaceae	*Vitis californica*	California wild grape	N	
Zygophyllaceae	*Tribulus terrestris*	Puncture vine	I	
MONOCOTS				
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	Soap plant	N	
Cyperaceae	*Carex feta*	Green-sheathed sedge	N	
	Carex leptopoda	Slender-footed sedge	N	
	Carex praegracilis	Black creeper or freeway sedge	N	
	Cyperus sp.	Nutsedge	N	
	Eleocharis pachycarpa		I	
	Scirpus microcarpus		N	
Iridaceae	*Iris* sp. [3]	Bearded iris	I	
Juncaceae	*Juncus effusus* ssp. *pacificus*	Pacific rush	N	
	Luzula comosa var. *laxa*		N	
Liliaceae	*Lilium* sp. [5]	Lily	N	
Melanthiaceae	*Trillium* sp.		N	
Orchidaceae	*Piperia transversa*	Flat spurred piperia	N	
Poaceae	*Aegilops triuncialis*	Barbed goat grass	I	High
	Agrostis idahoensis	Idaho redtop	N	
	Aira caryophyllea	Silver hair grass	I	
	Avena sp.	Wild oat	I	Moderate
	Bromus diandrus	Ripgut grass	I	Moderate
	Bromus hordeaceus	Soft chess	I	Moderate
	Bromus madritensis ssp. *rubens*	Red brome	I	High

	Bromus sterilis	Poverty brome	I	
	Cynosurus echinatus	Bristly dogtail grass	I	Moderate
	Dactylis glomerata	Orchard grass	I	Limited
	Deschampsia elongata	Slender hair grass	N	
	Elymus glaucus	Blue or western wild-rye	N	
	Elymus triticoides	Beardless wild rye	N	
	Festuca arundinacea	Tall fescue	I	Moderate
	Festuca occidentalis	Western fescue	N	
	Festuca perennis	Rye grass	I	Moderate
	Holcus lanatus	Common velvet grass	I	Moderate
	Melica subulata	Alaskan oniongrass	N	
	Muhlenbergia rigens	Deer grass	N	
	Poa bulbosa		I	
	Poa pratensis ssp. *pratensis*	Kentucky blue grass	I	Limited
	Polypogon australis	Chilean beard grass	I	
	Setaria viridis	Green bristle grass	I	
Ruscaceae	*Maianthemum racemosum*		N	
Themidaceae	*Brodiaea elegans* ssp. *elegans*	Harvest brodiaea	N	
	Brodiaea minor	Small brodiaea	N	

[1] N = Native to CA; I = Introduced.

[2] Negative ecological impact according to the California Invasive Plant Council (Cal-IPC 2006).

[3] Observed only as horticultural escape or planting.

[4] Only large, relict native stands of Northern California black walnut are considered special-status by CNPS (2017). Individual trees outside of these relict native stands are not protected. The walnut trees in the Action Area have no special status.

[5] Plants were in early bud on 12 June and past flower on 27 July 2012. Plants could not be identified to species. Approximately 5-10 individuals occur in the Action Area.

Wildlife Species Observed

COMMON NAME	SCIENTIFIC NAME
REPTILES	
Western fence lizard	*Sceloporus occidentalis*
AMPHIBIANS	
Bullfrog	*Rana catesbeiana*
Pacific treefrog	*Pseudacris regilla*
BIRDS	
American crow	*Corvus brachyrhynchos*
American robin	*Turdus migratorius*
Black-headed grosbeak	*Pheucticus melanocephalus*
Black phoebe	*Sayornis nigricans*
Bushtit	*Psaltriparus minimus*
California towhee	*Pipilo crissalis*
California quail	*Callipepla californica*
Common raven	*Corvus corax*
Dark-eyed junco	*Junco hyemalis*
Hairy woodpecker	*Picoides villosus*
House wren	*Troglodytes aedon*
Mallard	*Anas platyrhynchos*
Mourning dove	*Zenaida macroura*
Pileated woodpecker	*Dryocopus pileatus*
Red-breasted sapsucker	*Sphyrapicus ruber*
Red-shouldered hawk	*Buteo lineatus*
Rock dove	*Columbia livia*
Spotted towhee	*Pipilo maculatus*
Stellar's jay	*Cyanocitta stelleri*
Turkey vulture	*Cathartes aura*
Western bluebird	*Sialia mexicana*
Western scrub jay	*Aphelocoma californica*
Western tanager	*Piranga ludoviciana*
Western wood pewee	*Contopus sordidulus*
White-breasted nuthatch	*Sitta carolinensis*
Wild turkey	*Meleagris gallopavo*
MAMMALS	
Mule deer	*Odocoileus hemionus*

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Appendix H Revegetation Planting and Erosion Control Specifications

The Newtown Road Bridge over South Fork Weber Creek (25C-0033) Replacement Project (Project) is a federally funded project through the Federal Highway Administration (FHWA). The proposed Project involves replacing the existing bridge over South Fork Weber Creek and widening the road approaches on either side of the replacement bridge. Erosion control measures will be appropriate for the level of impact that will result from construction of the Project. The Project Engineer shall determine the appropriate erosion control measures to be implemented. The Revegetation Planting and Erosion Control Specifications included in this Appendix incorporate by reference Sections 13, 20, and 21 of the Caltrans 2015 Standard Specifications.

I. Highway Planting

A. General

The work performed in connection with highway planting shall conform to the provisions in Section 21, “Erosion Control” of the Caltrans 2015 Standard Specifications.

B. Highway Planting Materials - General

Disturbed soils in the Project area will be hydroseeded with native species.

C. Plant Establishment Work

The plant establishment period shall conform to the provisions in Section 20-4, “Landscape, Plant Establishment Work” of the Caltrans 2015 Standard Specifications, shall be Type 2, and shall be not less than 30 working days from completion of construction.

Weed control, as specified in Section 20-4.03 “Landscape, Plant Establishment Work, Construction, Weed Control” of the Caltrans 2015 Standard Specifications shall be performed as required. Weeds removed shall be disposed of in conformance with provisions in Sections 13-4 “Water Pollution Control, Job Site Management,” 17-2.03 “Clearing and Grubbing, Construction, Disposal of Materials,” and 20-4.03 “Landscape, Plant Establishment, Construction, Weed Control” of the Caltrans 2015 Standard Specifications.

D. Environmentally Sensitive Areas

El Dorado County will establish Environmentally Sensitive Areas (ESAs) along the limits of construction adjacent to the riparian community, the ephemeral and perennial channels, and the seasonal wetland in the Action Area to exclude construction activities from avoided habitat. Trucks and other vehicles shall not be allowed to park in, nor shall equipment be stored in, an ESA. No storage or dumping of oil, gasoline, or other substances shall be permitted within an ESA. All ESAs shall be clearly delimited with yellow caution tape or temporary fencing prior to commencement of construction activities. Environmentally Sensitive Areas will be protected as specified in Section 13-

4 “Water Pollution Control, Job Site Management” and in Section 14 “Environmental Stewardship” and specifically in Section 16-2.03 “Temporary Facilities, Miscellaneous Temporary Facilities, High Visibility Fences” of the Caltrans 2015 Standard Specifications and the contract Special Provisions.

II. Erosion Control (Type D)

Erosion control (Type D) shall conform to the provisions in Sections 13 “Water Pollution Control” and 21 “Erosion Control,” of the Caltrans 2015 Standard Specifications and the contract Special Provisions.

Erosion control work shall consist of applying one application of erosion control materials to embankment slopes, excavation slopes, and other areas designated by the Engineer. Hydroseed shall be a mix of fiber, tackifier, fertilizer, seed, and other erosion control materials specified. The Project engineer will determine the specifications needed for erosion control fabric based on anticipated maximum flow velocities and soil types (e.g., sheer strength). Fertilizer will not be used in the seed mixture that will be applied to the banks of South Fork Weber Creek or the perennial channel.

A. Materials

Materials shall conform to Sections 13-5.02 “Water Pollution Control, Temporary Soil Stabilization, Materials” and 21-2.02 “Erosion Control, Erosion Control Work, Materials,” of the Caltrans 2015 Standard Specifications and the following:

1. Seed

Seed shall conform to the provisions in Section 21-2.02 “Erosion Control, Erosion Control Work, Materials, Seed” of the Caltrans 2015 Standard Specifications and as specified in the contract Special Provisions and as shown on the plans.

Purity and germination shall be tested and documented according to Sections 21-2.01C “Erosion Control, Erosion Control Work, General, Seed” and 21-2.01D “Erosion Control, Erosion Control Work, General, Quality Assurance, Seed” of the Caltrans 2015 Standard Specifications. Results from testing or retesting seed for purity and germination shall be furnished to the Engineer prior to applying seed.

The seed mixture shall consist of at least two species from Category A (grasses) and at least four species from Category B (legumes), and one from Category C (wildflowers). Seeds should be obtained from inland foothill stock to avoid genetic differences between coastal and foothill species of the same genus. These species shall be selected from the following seed mixture table.

Category	Scientific Name	Common Name	Type	Percentage Purity /& Germination (Minimum)	Pounds per acre
A	*Bromus carinatus*	California brome	Perennial grass	95/85	15
A	*Elymus glaucus*	Blue wild rye	Perennial grass	90/70	15
A	*Hordeum brachyantherum* ssp. *californicum*	California barley	Perennial grass	90/70	15
A	*Nassella pulchra*	Valley needlegrass	Perennial grass	90/70	15
A	*Poa secunda*	Pine bluegrass	Perennial grass	90/70	15
B	*Lupinus bicolor*	Miniature lupine	Flowering annual	90/70	10
B	*Lupinus succulentus*	Arroyo lupine	Flowering annual	90/70	10
B	*Trifolium albopurpureum* (any subspecies)	Rancheria clover	Flowering annual	90/90	10
B	*Trifolium microcephalum*	Small-head clover	Flowering annual	90/90	10
B	*Trifolium willdenovii*	Tomcat clover	Flowering annual	90/90	10
C	*Clarkia purpurea* (any subspecies)	Clarkia	Flowering annual	90/70	5
C	*Eschscholzia californica*	California poppy	Flowering annual	90/80	5

2. Commercial Fertilizer

Commercial fertilizer shall conform to the provisions in Sections 20 “Landscape” and 21 “Erosion Control” of the Caltrans 2015 Standard Specifications. When required by site specific conditions, modification of the type, amount, and application method of fertilizer application may occur at the engineer’s discretion and as indicated in the contract special provisions.

3. Fiber

Fiber used shall conform to the provisions in Section 21-2.02 “Erosion Control, Erosion Control Work, Materials, Fiber” of the Caltrans 2015 Standard Specifications.

B. Application

Hydromulch and hydroseed application shall conform to the provisions in Section 21-2.03 "Erosion Control, Erosion Control Work, Construction, Hydromulch and Hydroseed" of the Caltrans 2015 Standard Specifications.

When premixed seed from containers is added to hydro-seeding equipment, the entire contents of the containers shall be used in preparing the hydro-seeding mixture. Partial use of a container of premixed seed will not be permitted in a hydro-seeding mixture.

Once erosion control work is started in an area, all applications shall be completed in that area on the same working day. The proportions of erosion control materials may be changed by the Engineer to meet field items in the Engineer's Estimate.

III. Water Quality Protection

A. Water Quality and Erosion Control Goals

The goal of water quality and erosion control is to prevent the loss of soil, to prevent siltation, and to prevent adverse impacts on waterways.

B. Water Quality and Erosion Control Specifications

The proposed Project will adhere to erosion control specifications of the appropriate regulatory and resource agencies including Caltrans and CDFW.

El Dorado County will implement soil erosion control measures identified in the Best Management Practices of the Stormwater Quality Handbooks (Caltrans 2011a) and shall conform to Sections 13 "Water Pollution Control" and Section 21 "Erosion Control" of the Caltrans 2015 Standard Specifications and the contract Special Provisions. The BMPs used during the construction include revegetating the work zone at the conclusion of construction, establishing temporary water bars where necessary to reduce the potential for sheet erosion, and minimizing construction impacts in the Action Area.

IV. Summary

Erosion control materials will be applied to the area affected by the Project. Specifications of the appropriate regulatory and resource agencies will be followed.

Appendix I Replanting Plan

A. Purpose of this Plan

The purpose of this Plan is to describe the approach for restoring disturbed areas along South Fork Weber Creek to mitigate for impacts to riparian woodland. This Plan describes goals, methods of implementation, success criteria, and monitoring requirements. This Plan incorporates as background information the NES, the NES appendices, and the jurisdictional delineation report for the Project.

B. Responsible Parties

1. Applicant:

El Dorado County Department of Transportation
2441 Headington Road
Placerville, CA 95667
Phone: 530/ 621-5998
Contact: Chandra Ghimire, P.E.

2. Preparer of Replanting Plan:

Sycamore Environmental Consultants, Inc.
6355 Riverside Boulevard, Suite C
Sacramento, CA 95831
Phone: 916/ 427-0703
Contact: Jeff Little

3. Parties having financial responsibility for the attainment of the success criteria required by the proposed replanting plan:

El Dorado County Department of Transportation (see contact information above).

4. Present owner and expected long-term owner of the proposed restoration site:

El Dorado County Department of Transportation (see contact information above).

5. Parties responsible for long-term maintenance of restoration site:

El Dorado County Department of Transportation (see contact information above).

II. Project Requiring Restoration

More specific location information concerning the Project location, Project description, and the site characteristics are in the NES and jurisdictional delineation report.

A. Location

The Action Area is located in the western Sierra Nevada along Newtown Road, roughly 2 miles south of the community of Camino, California in unincorporated El Dorado County. The Project includes the Newtown Road Bridge at South Fork Weber Creek (25C-0033) and the road approaches on each side. The County will obtain and/or retain permanent right-of-way along the new road and bridge alignment.

B. Brief Summary of Overall Project

The El Dorado County Department of Transportation, in conjunction with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) intend to replace the existing Newtown Road Bridge at South Fork Weber Creek (25C-0033). The wider, longer bridge will improve driver safety and be consistent with American Association of State Highway and Transportation Officials (AASHTO) guidelines.

C. Site Characteristics

Vegetation in the Action Area consists of Oregon ash groves, Ponderosa pine forest, Douglas fir forest, California annual grassland, and Himalayan blackberry brambles. Oregon ash groves occurs along the margins of South Fork Weber Creek. The Oregon ash groves community is dominated by Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), and big-leaf maple (*Acer macrophyllum*). The understory is dominated by Himalayan blackberry (*Rubus armeniacus*) and a variety of herbaceous grasses and forbs.

The Ponderosa pine forest occurs in the upland areas north of Newtown Road in the Action Area. The understory in this community is sparsely vegetated with nonnative herbaceous grasses and forbs. The Douglas fir forest occurs in the uplands south of Newtown Road in the Action Area. This community contains an understory dominated by western poison oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos* sp.), gooseberry (*Ribes* sp.), and bracken (*Pteridium aquilinum* var. *pubescens*).

California annual grassland occurs adjacent to a private residence southwest of the bridge and around Paso Way northwest of the bridge. This community is dominated by nonnative weedy, herbaceous species. Himalayan blackberry brambles occur on the north side of South Fork Weber Creek and along the unnamed perennial channel.

South Fork Weber Creek is an intermittent to perennial channel flowing east to west through the Action Area. The Oregon ash groves community occurs along the margins of the creek. An unnamed perennial channel, originating north of the Action Area, flows south through

Himalayan blackberry brambles to South Fork Weber Creek just east of the Newtown Road Bridge. There is no riparian corridor associated with the perennial channel, although it does pass through the Oregon ash groves community associated with South Fork Weber Creek. Three ephemeral channels and one seasonal wetland also occur in the Action Area.

The primary feature in the Action Area consists of two-lane, paved Newtown Road which travels roughly east-west through the Action Area. Paso Way is a gravel single-lane road that travels northeast from the intersection of Newtown Road. A gravel private residence driveway occurs just east of the bridge on the south side of Newtown Road.

III. Restoration Design

A. Location and Basis for Design

Based on the alternative selected, the Project anticipates removing 33 to 34 native trees in the Oregon ash groves community along South Fork Weber Creek and near its confluence with the unnamed perennial channel. Figures 5A and 5B of the NES show the native trees in the Action Area proposed for removal by each Project alternative.

Native trees removed in the Oregon ash groves community will be replaced at a 2:1 ratio. The restoration site will be located within the road right-of-way. Trees may be replanted in the temporarily disturbed areas, in the RSP, and in openings within the undisturbed areas of the Oregon ash groves community. Bare soil slopes will be hydroseeded with native grasses and forbs in accordance with the *Revegetation Planting and Erosion Control Specifications* in Appendix H. Tree planting locations are subject to revisions based on the requirements of the Final Engineering Plans.

B. Proposed Restoration Site

The proposed restoration areas will occur within temporarily disturbed areas, in RSP, and in openings within the undisturbed areas of the Oregon ash groves community.

C. Restored Habitats

To mitigate for impacts to the Oregon ash groves community as a result of the bridge replacement, the Project will replant native trees in the Oregon ash groves community. The long-term goal is for the restored habitats to approximate the adjacent undisturbed habitats within the Action Area.

IV. Success Criteria and Monitoring

A. Success Criteria

Depending on the alternative selected, the proposed success criteria (60% survival rate) is 40 (Alternative 2) or 41 (Alternative 1) native trees surviving within the revegetated portions of South Fork Weber Creek and the Oregon ash groves community for two years from the time of

planting. Naturally recruited native trees in the temporarily disturbed areas and RSP will also count toward the success criteria.

B. Monitoring

The proposed restoration site will be monitored twice each year, once in spring and once in autumn, for two years after planting, or until success criteria have been met. During each of the four monitoring events, the condition and number of surviving restoration plantings will be recorded. The diameter at breast height and estimated height of each tree will be recorded. Health and vigor of all trees will be assessed qualitatively. Natural recruitment of native species will also be recorded. The functioning of any erosion control materials, and any occurrences of nonnative or invasive plants will be noted. A general assessment of the condition of the mitigation site will be made.

V. Implementation Plan

A. Site Preparation

Immediately after construction has been completed, appropriate sturdy erosion control materials shall be placed on top of the temporarily impacted areas containing erosion-prone soils. The erosion control material will be securely anchored so as to prevent erosion of soil during precipitation events and high flows in South Fork Weber Creek. Erosion control material should be biodegradable if possible. At the time of planting, Himalayan blackberry will be removed or controlled in a way that facilitates planting. Removal and control of Himalayan blackberry will be conducted by a qualified person with an appropriate method given site characteristics.

B. Planting

Planting shall be conducted with species appropriate for the Oregon ash groves community. The quantities of native trees removed, the quantity to be planted, and recommended replacement species are presented in Tables 1 and 2. Replacement species in Tables 1 and 2 are native and commercially available. Trees may be planted from cuttings up to container grown stock of one-gallon size. Each plant will be tagged and numbered after planting to facilitate annual monitoring and to track the performance of individual plants. The replacement requirements shown in Tables 1 and 2 are the goals for minimum number alive after 2 years. The Project may choose to plant more than the required plantings to ensure that a sufficient proportion survive 2 years after planting.

Table 1. Alternative 1 Tree Plantings

Number of Trees Removed	Required Replacement Plantings	Recommended Replacement Species
34	41	Arroyo willow (*Salix lasiolepis*) Oregon ash (*Fraxinus latifolia*) White alder (*Alnus rhombifolia*) Big-leaf maple (*Acer macrophyllum*)

Table 2. Alternative 2 Tree Plantings

Number of Trees Removed	Required Replacement Plantings	Recommended Replacement Species
33	40	Arroyo willow (*Salix lasiolepis*) Oregon ash (*Fraxinus latifolia*) White alder (*Alnus rhombifolia*) Big-leaf maple (*Acer macrophyllum*)

The proposed bridge abutments and banks of South Fork Weber Creek will be covered with RSP. RSP presents special challenges for planting because there is little exposed soil and the rock may increase daily maximum temperatures to a level not tolerated by some native species. Willows can grow in this type of situation. If replacement trees need to be planted in the RSP, pole cuttings of willows can be planted in these areas.

Restoration planting may also occur in temporarily disturbed areas of the Oregon ash groves community not covered by RSP. For Alternative 1, these areas occur along either bank of South Fork Weber Creek and are located within approximately 140 feet west or 220 feet east of the new bridge (centerline). For Alternative 2, these areas occur along either bank of South Fork Weber Creek and are located within approximately 180 feet west or 210 feet east of the new bridge (centerline).

Restoration planting may occur along the edge of the bridge, but should not occur far underneath where it is dark and precipitation may be limited. No trees occur naturally underneath the existing bridge; it is not expected that plants will survive if planted underneath the new bridge. Replacement plantings should not be planted below the ordinary high water mark (OHWM) of South Fork Weber Creek to protect plantings from seasonal scouring flows.

Where the soil has been compacted, planting holes will need to be dug with power machinery or picks. Planting holes will be excavated to the depth of planting containers and three times the width. Plant to the depth of the root ball and no deeper. The trunk flare should be visible after planting. Shrubs cleared for construction will be chipped and used as mulch around plantings. A 2 to 4-inch layer of mulch should be placed over the root system. Mulch should not be placed against the trunk as it promotes fungal growth. Keep a 2-inch wide mulch-free buffer around the trunk.

C. Planting Schedule

Site preparation and planting should occur in the fall. Planting at the beginning of the wet season will increase the probability of plant survival. If planting needs to occur in the summer, the revegetation contractor (or County) will need to ensure that the trees are adequately watered.

VI. Maintenance During Monitoring Period

Maintenance during the monitoring period may include upkeep of erosion control materials, additional plantings, control of invasive species, addition of protective devices for plantings, and watering during the warmer months for at least 2 years. Maintenance activities will be undertaken based on the results and suggestions of the bi-annual monitoring events and shall be the responsibility of the County.

VII. Monitoring Reports

A. As-Built Report

The as-built report shall be prepared at the completion of planting. The as-built report shall include a map of the plantings, a description of the methods and materials used, and establishment of photo-documentation points. A copy of the as-built report shall be due by 31 December of the year of planting.

B. Annual Reports

The first monitoring event shall occur in the spring following planting. The annual report shall be prepared by 31 December each year. Each annual report shall include the results of the two monitoring events for that year, and a comparison of the results to the success criteria.

VIII. Potential Contingency Measures

If the monitoring report determines that the restoration site is not meeting or is unlikely to meet the success criteria, then contingency measures shall be recommended by the monitoring report. Contingency measures could include additional plantings, different species, different methods, invasive species control, or other measures designed towards the goal of meeting the success criteria. It is the responsibility of the El Dorado County Department of Transportation, to meet the success criteria, including implementation of any contingency measures towards that end.

IX. Completion of Restoration Responsibilities

Restoration is complete if the success criteria are met after the second year of monitoring. If the success criteria are not met after the second year of monitoring, then monitoring shall continue with the same methods and frequency until the success criteria are met.

X. Long-Term Management Plan

The restoration site will be in the road right-of-way. The restoration site will be managed the same as the surrounding land after the completion of restoration responsibilities.

Appendix J Glossary

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A *Back to top*

AASHTO: American Association of State Highway and Transportation Officials is a standards setting body which publishes specifications and guidelines used in highway design and construction throughout the U.S.

AESTIVATION: A prolonged state of torpor or dormancy of an animal during a hot or dry period.

ALKALINE: Of, relating to, containing, or having properties of an alkali or alkali metal; basic; having a pH of more than 7.

ALLUVIAL SOILS: Soil developing from recent alluvium (see below); typical of floodplains.

ALLUVIUM: Material developed by running water.

ANADROMOUS: Refers to fish that typically inhabit seas or lakes but ascend streams to spawn; for example, salmon.

AS-BUILTS: The final plans of a project after the project is constructed. These plans show the original design, as well as changes that occurred during construction.

B *Back to top*

BACKWATER: A water backed up in its course by an obstruction, an opposing current, or the tide; a body of water that is out of the main current of a larger body.

BEST MANAGEMENT PRACTICE (BMP): Any program, technology, process, operating method, measure, or device that controls, prevents, removes or reduces pollution.

BIOLOGICAL ASSESSMENT (BA): A document prepared for the Section 7 process to determine whether a proposed major construction activity under the authority of a Federal action agency is likely to adversely affect listed species, proposed species, or designated critical habitat.

BRACKISH: Water that has salt concentration greater than fresh water (>.05 $^{0}/_{00}$) and less than seawater (<35 $^{0}/_{00}$).

C *Back to top*

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA): State legislation enacted in 1970 and subsequently amended. It requires public agencies to regulate activities that may affect the quality of the environment so that major consideration is given to preventing damage to the environment.

CORRIDOR: A strip of land between two termini within which traffic, topography, environment, and other characteristics are evaluated for transportation purposes.

CRITICAL HABITAT: Specific geographic areas, whether occupied by listed species or not, that are determined to be essential for the conservation and management of listed species, and that have been formally described in the Federal Register.

CUMULATIVE IMPACT (CEQA): The CEQA definition of cumulative impact comes from the Office of Planning and Research (OPR). Section 15355 of OPR's CEQA Guidelines provides the following context:

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

A. The individual effects may be changes resulting from a single project or a number of separate projects.
B. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

CUMULATIVE IMPACT (NEPA): The NEPA definition of a cumulative impact comes from the Council on Environmental Quality (CEQ), which defines a cumulative impact as:

> …the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR §1508.7.)

D *Back to top*

DIRECT EFFECTS: Effects that are caused by an action and occur at the same time and place as the action.

DISTINCT POPULATION SEGMENT (DPS): If it satisfies the criteria specified in the February 7, 1996, Federal Register, pages 4722-4725, a portion of a vertebrate (i.e., animals with a backbone) species or subspecies can be listed. The criteria require it to be readily separable from the rest of its species and to be biologically and ecologically significant. Such a portion of a species or subspecies is called a distinct population segment.

E *Back to top*

ECOSYSTEM: The biotic community and its abiotic environment functioning on a system.

ENCROACHMENT: (FEMA definition): Construction, placement of fill, or similar alteration of topography in the floodplain that reduces the area available to convey floodwaters. (FHWA definition): An action within the limits of the base floodplain.

ENDANGERED: Plant or animal species that are in danger of extinction throughout all or a significant portion of its range.

ENDEMIC, ENDEMISM: Restricted to a given region (e.g., endemic to California).

ENVIRONMENTALLY SENSITIVE AREA (ESA): An area that is fenced off to exclude construction activities from sensitive or avoided habitat.

EPHEMERAL: A stream that has flowing water only during or for a short duration after precipitation events in a typical year.

EROSION: The wearing away of the land surface by running water, wind, ice, or other geological agents.

EXPOSURE: Exposures are defined as the interaction of the species, their resources, and the stressors that result from the project action.

F *Back to top*

FEDERAL ENDANGERED SPECIES ACT (FESA): Passed in 1973, the purpose of the FESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service and the Commerce Department's National Marine Fisheries Service (NMFS). FESA defines take (Section 9) and prohibits taking of a federal-listed endangered or threatened animal without an Incidental Take Permit (16 U.S.C. 1532, 50 CFR 17.3).

FEDERAL HIGHWAY ADMINISTRATION (FHWA): The Federal agency within the U.S. Department of Transportation responsible for administering the Federal-aid Highway Program and the Motor Carrier Safety Program.

FEDERAL REGISTER (FR): The *Federal Register* is the official daily publication for agency rules, proposed rules, and notices of federal agencies and organizations, as well as for Executive Orders and other presidential documents.

FUNCTIONALLY OBSOLETE: Functionally Obsolete is a status used to describe a bridge that is no longer by design functionally adequate for its task. Functionally Obsolete does not communicate anything of a structural nature.

G *Back to top*

H *Back to top*

HABITAT: The location where a particular taxon of plant or animal lives and its surroundings (both living and nonliving) and includes the presence of a group of particular environmental conditions surrounding an organism including air, water, soil, mineral elements, moisture, temperature, and topography.

HERBACEOUS: A vascular plant lacking aboveground woody stems; may be annual or perennial. The term includes aquatics, both flowering and spore-bearing broadleaf plants, grasses, grasslike plants, and non-woody vines.

HYDRIC SOIL: Soil subject to saturation or inundation.

I *Back to top*

INDIRECT EFFECTS: Effects that are caused by an action and that occur later in time, or at another location, yet are reasonably foreseeable.

INTERDEPENDENT ACTION: Interdependent actions are those that have no independent utility apart from the action under consideration.

INTERMITTENT: Have flowing water periods during the wet season (winter-spring) but are normally dry during hot summer months. Intermittent streams do not have continuous flowing water year-round.

INTERRELATED ACTION: Actions that are part of a larger action and depend on the larger action for their justification (i.e., this project would not occur "but for" a larger project). Interrelated actions are typically associated with the proposed action.

IMPORTANT BIOLOGICAL CORRIDOR (IBC): The El Dorado General Plan identifies and protects areas designated as IBC's. This designation applies to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors.

J *Back to top*

K *Back to top*

L *Back to top*

LEAD AGENCY (CEQA): "Lead Agency" means the public agency that has primary responsibility for carrying out or approving a project that may have a significant effect on the environment and preparing the environmental document.

LEAD AGENCY (NEPA): The agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement.

M *Back to top*

MARSH: Wetland dominated by emergent grassy vegetation, such as cattails and sedges.

MEDIAN: The portion of a divided highway separating the traveled ways in opposite directions.

MIGRATION: Intentional, directional, and usually seasonal movement of animals between two regions or habitats; involves departure and return of the same individual.

MITIGATION BANK: Large blocks of land preserved, restored, and enhanced for the purpose of consolidating mitigation and/or mitigating in advance for projects that take listed species.

N *Back to top*

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA): Enacted in 1969, NEPA requires all federal agencies to consider environmental factors through a systematic interdisciplinary approach before committing to a course of action. The NEPA process is an overall framework for the environmental evaluation of federal actions.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT (NPDES): "…is required for facilities and activities that discharge waste into surface waters from a confined pipe or channel."

NATURAL ENVIRONMENT STUDY (NES): A Natural Environment Study (NES) describes the existing biological environment and how the project alternatives affect that environment. The NES summarizes technical documents such as focused species studies, wetland assessments, and biological assessments related to effects on biological resources in the Action Area for use in the environmental document.

O *Back to top*

ORDINARY HIGH WATER MARK (OHWM): The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

P *Back to top*

PERENNIAL: A stream that has flowing water year-round during a typical year. The water table is located above the streambed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from precipitation is a supplemental source of water for stream flow.

PRACTICABLE: The term *practicable* means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

PROJECT (CEQA): California Public Resources Code §21065 defines a "project" as an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:

A. An activity directly undertaken by any public agency.
B. An activity undertaken by a person which is supported, in whole or in part, throughout contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
C. An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

PROJECT (FHWA): 23 Code of Federal Regulations §1.2 defines a project as an undertaking by a State highway department for highway construction, including preliminary engineering, acquisition of rights-of-way and actual construction, or for highway planning and research, or for any other work or activity to carry out the provisions of the Federal laws for the administration of Federal-aid for highways.

Q *Back to top*

R *Back to top*

REGIONAL WATER QUALITY CONTROL BOARD (RWQCB): Regional board that makes critical water quality decisions for its region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. Makes critical decisions to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations.

REVEGETATION: Planting of indigenous plants to replace natural vegetation that is damaged or removed because of highway construction projects or permit requirements.

RIGHT-OF-WAY: A general term denoting land, property, or interest therein, usually in a strip acquired for or devoted to transportation purposes.

RIPARIAN: Along banks of rivers and streams, riverbank forests are often called gallery forests.

ROCK SLOPE PROTECTION (RSP): Randomly placed rock or concrete used to strengthen an embankment or protect it from erosion.

S *Back to top*

SCOUR: Erosion caused by moving water.

SERPENTINE: A dark green mineral consisting of hydrated magnesium silicate, sometimes mottled or spotted like a snake's skin.

SETBACKS: The minimum horizontal distance slopes shall be set back from site boundaries according to Chapter 70 of the Uniform Building Code. Also applies to the minimum horizontal distance required from faults to structures (see California Geological Survey Special Publication 42, pp. 27 and 29).

SPECIAL-STATUS SPECIES: Plant or animal species that are either (1) federally listed, proposed for or a candidate for listing as threatened or endangered; (2) bird species protected under the federal Migratory Bird Treaty Act; (3) protected under state endangered species laws and regulations, plant protection laws and regulations, Fish and Game codes, or species of special concern listings and policies; or (4) recognized by national, state, or local environmental organizations (e.g., California Native Plant Society).

STORM WATER POLLUTION PREVENTION PLAN (SWPPP): A SWPPP is prepared to evaluate sources of discharges and activities that may affect storm water runoff, and implement measures or practices to reduce or prevent such discharges.

STRESSOR: Stressors induce an adverse response in an organism by any physical, chemical, or biological alteration of the environment (or resource) that can lead to a response from the individual. Stressors can act directly on an individual, or indirectly through effects to a resource.

SUFFICIENCY RATING: The Sufficiency Rating is a numeric value (from zero to 100) assigned by Caltrans, that indicates the sufficiency of a bridge to remain in service. Sufficiency Ratings are established by using federal bridge inspection and appraisal guidelines, and represent a weighted analysis of a bridge's structural adequacy and safety, serviceability and functional obsolescence, and essentialness for public use.

SUMP PUMPING: The process of using a pump to remove water that has accumulated in a basin.

T *Back to top*

THREATENED: A species that is likely to become endangered in the foreseeable future in the absence of special protection.

TURBIDITY: Cloudiness (or a measure of the cloudiness in water due to the presence of suspended particulates).

U *Back to top*

ULTRAMAFIC: Soils derived from igneous rocks composed chiefly of mafic minerals, a group of dark-colored, mainly ferromagnesian minerals such as pyroxene and olivine.

V *Back to top*

W *Back to top*

WATERSHED: The area of land that drains into a specific waterbody.

WATERS OF THE UNITED STATES: As defined by the United States Army Corps of Engineers (USACE) in 33 CFR 328.3(a):

1. 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;

2. All interstate waters including interstate wetlands;

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(iii) Which are used or could be used for industrial purposes by industries in interstate commerce;

4. All impoundment of waters otherwise defined as waters of the United States under this definition;

5. Tributaries of waters identified in paragraphs 1-4;

6. The territorial seas;

7. Wetlands adjacent to waters (waters that are not wetlands themselves) identified in paragraphs 1-6.

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

WETLAND: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

X *Back to top*

Y *Back to top*

Z *Back to top*