Attachment F
NES

Green Valley Road/ Weber Creek Bridge Replacement Project (CIP #77114)

Natural Environment Study

and

Jurisdictional Delineation Report

Green Valley Road Bridge (25C-0088) at Weber Creek

Replacement Project

El Dorado County, CA

Federal Aid Number: BRLS-5925 (046)

September 2010

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Natural Environment Study

Biological Assessment & Jurisdictional Delineation Report

Green Valley Road Bridge (25C-0088) at Weber Creek

Replacement Project

El Dorado County, CA

Federal Aid Number: BRLS-5925 (046)

September 2010

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
STATE OF CALIFORNIA
Department of Transportation

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Summary

The Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project (Project) is a federally funded project through the Federal Highway Administration (FHWA). The Green Valley Road Bridge at Weber Creek is approximately 0.7 miles (mi) southwest of Placerville Drive in El Dorado County. The purpose of the Project is to replace the existing 20-ft wide, two-lane, concrete, "T" beam bridge, which has been determined to be structurally deficient. The Biological Study Area (BSA) for the Project occupies approximately 7.68 ac.

Associated improvements for the approaches and bridge include an improved horizontal alignment with a larger radius curve, improved vertical alignment, wider lanes and shoulders, and retaining walls. The new bridge will be located to the west of the existing bridge and the realignment will increase the safety on Green Valley Road. The existing bridge will be removed after the completion of the new bridge.

Caltrans is considered the federal agency, following the provisions of the Memorandum of Understanding (MOU) between the Federal Highway Administration, California Division and the California Department of Transportation State Assumption of Responsibility for Categorical Exclusions, which became effective on 7 June 2007. The MOU was signed pursuant to Section 6004 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) which allows the Secretary of Transportation to assign, and the State of California to assume responsibility for most NEPA Categorical Exclusion determinations. For those projects, the State may also be assigned FHWA's responsibilities for the environmental consultation and coordination under other federal environmental laws. By statute, the State is deemed to be a Federal agency for these assigned responsibilities. As this project is covered by Section 6004 MOU, FHWA has assigned and Caltrans has assumed FHWA responsibility for environmental review, consultation, and coordination on this project.

The Caltrans Local Assistance Program Manual (Caltrans 2004) describes the environmental procedures needed for local agencies to apply for federal funds and for compliance with Executive Orders and other federal laws including FESA and NEPA. As the lead local agency, El Dorado County Resource Management Department is responsible for compliance with the California Environmental Quality Act (CEQA).

Weber Creek is not designated as essential fish habitat (EFH) for Pacific salmon. Weber Creek is tributary to the American River upstream of Folsom Dam. Folsom Dam is an impassable dam that represents the upstream limit of EFH for Pacific salmon on the American River.

Protocol surveys for California red-legged frog (*Rana draytonii*; CRLF) were conducted. No CRLF were observed. During a 23 March 2010 field meeting with the U.S. Fish and Wildlife Service (USFWS), it was determined that Weber Creek in the Project site was not suitable breeding or wintering CRLF habitat. Weber Creek in the Project site could be used for summer-time dispersal of CRLF. The Project may affect, and is likely to adversely affect CRLF. The Project is not located in CRLF critical habitat. The project will have no effect on CRLF critical habitat. Consultation will be occurring between Caltrans and the USFWS.

Preconstruction surveys will be conducted for birds of prey and birds listed under the Migratory Bird Treaty Act (MBTA). If an active nest of a bird of prey or MBTA bird is found, a buffer will be established around the nest as an avoidance measure. To reduce the potential for adverse impacts to fish, in-water work will be restricted to the period between 15 April and 15 October, unless DFG and USFWS provide approval of work outside that period.

Permits and authorizations required for this Project include a Section 404 Permit from the U.S. Army Corps of Engineers (Corps), a Section 401 Water Quality Certification, a National Pollutant Discharge Elimination System (NPDES) Permit from the Regional Water Quality Control Board (RWQCB), and a 1602 Streambed Alteration Agreement from the California Department of Fish and Game (DFG).

Twenty-seven (27) invasive plant species occur in the BSA (California Invasive Plant Council, Cal-IPC 2006). Himalayan blackberry, barbed goatgrass (*Aegilops triuncialis*), scotch broom (*Cytisus scoparius*), yellow star-thistle (*Centaurea solstitialis*) and English ivy (*Hedera helix*) are rated “High” by Cal-IPC. The spread of invasive species in the BSA will be reduced by revegetating disturbed areas in the County right-of-way (ROW) with native or sterile nonnative species. The limited scope of this Project precludes effective eradication of these invasive species from the BSA.

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List of Abbreviated Terms

ac	acre(s)
BMP	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council (previously California Exotic Pest Plants Council [CalEPPC])
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CH	Channel
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	Army Corps of Engineers
CRLF	California red-legged frog
CWA	Clean Water Act
DBH	Diameter at breast height
DFG	California Department of Fish and Game
DOT	Department of Transportation
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESA	Environmentally Sensitive Area
ESU	Evolutionarily Significant Unit
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	foot/feet
FYLF	Foothill yellow-legged frog
GGS	Giant Garter Snake
GPS	Global positioning system
HBP	Highway Bridge Program
IBC	Important Biological Corridor
in	inch/ inches
MBTA	Migratory Bird Treaty Act
mi	mile(s)
mph	miles per hour

NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service (a division of National Oceanic and Atmospheric Administration)
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetlands Inventory
NWPT	Northwestern pond turtle
OHWM	ordinary high water mark
PUE	Public Utility Easement
quad	USGS topographic quadrangle
ROW	right-of-way
RSP	Rock slope protection
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SWPPP	Stormwater Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Chapter 1. Introduction

1.1. Project History

The County of El Dorado, in conjunction with the California Department of Transportation (Caltrans), and the Federal Highway Administration (FHWA), is proposing to replace the Green Valley Road Bridge at Weber Creek. The Green Valley Road Bridge (Bridge Number 25C-0088) at Weber Creek is a 20 ft wide, two-lane, concrete "T" beam structure. Green Valley Road is one of three east-west arterials in the west slope area of El Dorado County, extending from the county line in El Dorado Hills to Placerville. The existing bridge, constructed in 1926, has been identified by Caltrans as structurally deficient (sufficiency rating of 22.5). The existing bridge also does not meet current standards of roadway width. The bridge must be replaced because it cannot be rehabilitated. Associated improvements for the approaches and bridge include an improved horizontal alignment with a larger radius curve, improved vertical alignment, wider lanes and shoulders, and retaining walls. The new bridge will be located to the west of the existing bridge, which will be removed after completion of the Project.

1.2. Project Description

The Project Biological Study Area (BSA) is located in El Dorado County, CA in the western foothills of the Sierra Nevada (Figure 1). Figure 2 is an aerial photograph of the BSA. Photographs of the BSA are in Appendix D.

Alternatives analyzed were a No Project Alternative, a Replace-in-Place Alternative, a 35-mph design curve, and the Proposed Alternative. The Proposed Project design with associated impacts is shown on Figure 3. The project site is severely constrained due to the substantial vertical elevation change between the current bridge deck and the study limits, the wide ravine, the 90 degree turn at the south bridge approach, traffic and safety for circulation, and right-of-way (ROW) take. Under the No-Project Alternative, Green Valley Road Bridge would remain in its current condition. The No-Project Alternative does not meet the County's need for replacement of a structurally deficient bridge, nor improve roadway safety.

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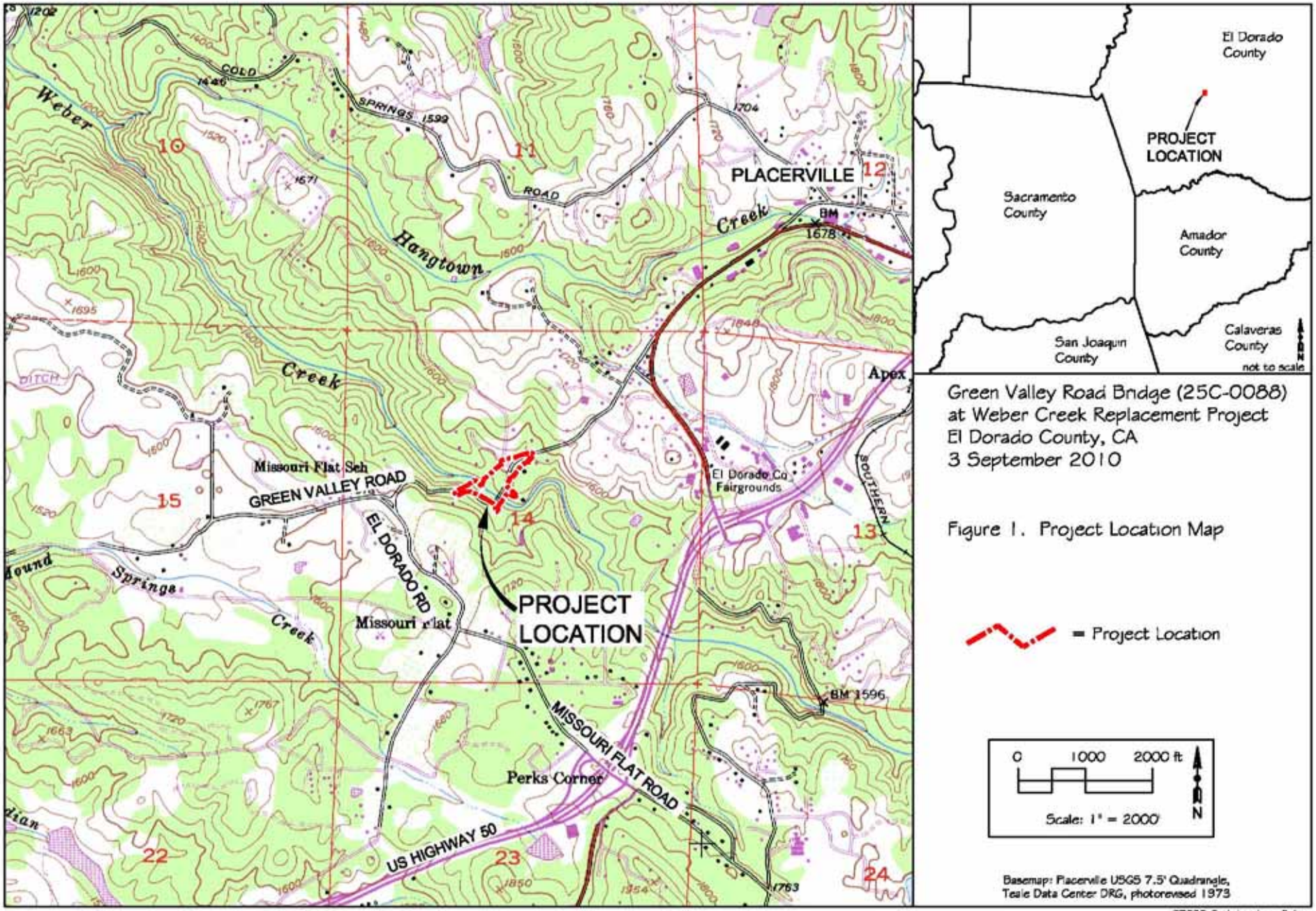
PROJECT LOCATION
PLACERVILLE
Hangtown Creek
Weber Creek
Missouri Flat Sch
GREEN VALLEY ROAD
EL DORADO RD
Missouri Flat
Apex
El Dorado Co Fairgrounds
MISSOURI FLAT ROAD
Perks Corner
US HIGHWAY 50
SOUTHERN
Found Springs Creek
COLD SPRINGS
BM 1678
BM 1596
10
11
12
13
14
15
22
23
24
El Dorado County
Sacramento County
Amador County
San Joaquin County
Calaveras County
not to scale
Green Valley Road Bridge (25C-0088)
at Weber Creek Replacement Project
El Dorado County, CA
3 September 2010
Figure 1. Project Location Map
= Project Location
0 1000 2000 ft
Scale: 1" = 2000'
N
Basemap: Placerville USGS 7.5' Quadrangle,
Teale Data Center DRG, photorevised 1973
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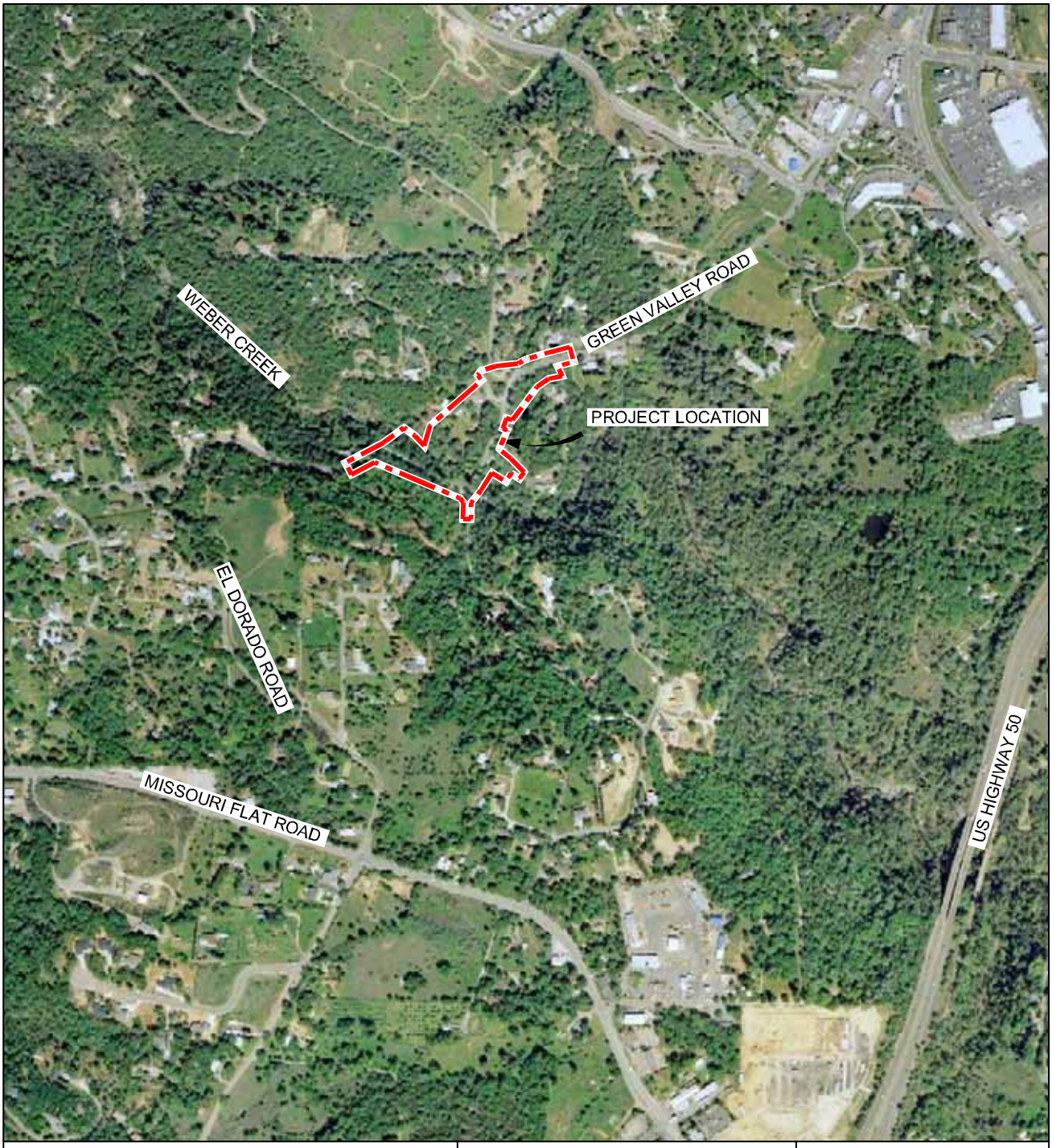

Green Valley Road Bridge
(25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA
3 September 2010

Figure 2.

Aerial Photograph

= Project Location

0 400 800 ft

Scale: 1" = 800'

N

Basemap:
1 April 2004 Image
Copyright 2008. DigitalGlobe,
Inc. All rights reserved.

07030_Fig 2_Aerial.dwg

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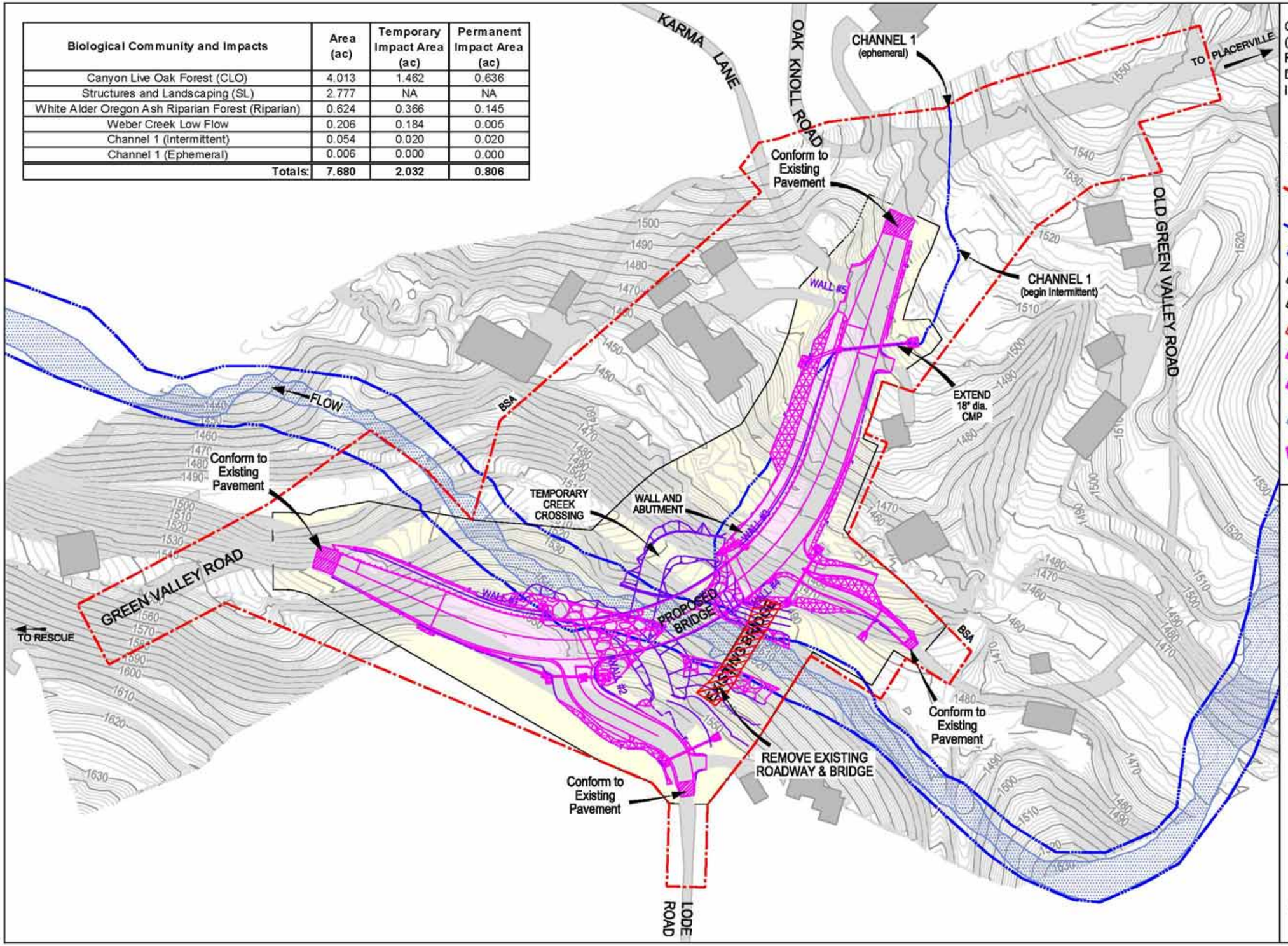
Biological Community and Impacts	Area (ac)	Temporary Impact Area (ac)	Permanent Impact Area (ac)
Canyon Live Oak Forest (CLO)	4.013	1.462	0.636
Structures and Landscaping (SL)	2.777	NA	NA
White Alder Oregon Ash Riparian Forest (Riparian)	0.624	0.366	0.145
Weber Creek Low Flow	0.206	0.184	0.005
Channel 1 (Intermittent)	0.054	0.020	0.020
Channel 1 (Ephemeral)	0.006	0.000	0.000
Totals:	**7.680**	**2.032**	**0.806**



Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project
El Dorado County, CA
16 September 2010

Figure 3. Project Map

- = Biological Study Area (BSA) (7.206 acres)
- = Channel 1
- = Weber Creek OHWM (0.650 acre)
- = Permanent Impact
- = Temporary Impact
- = Remove existing Bridge
- = Proposed Grading
- = Proposed Rock Slope Protection (RSP)
- = Weber Creek Low Flow
- = Proposed culvert with inlet and outlet

Note:
1. Temporary impacts to Weber Creek; portions of the creek may be dewatered.

2. Footings and walls assume 5' wide base from face of abutment and walls. (Walls assumed to be load bearing)

0 50 100 ft
Scale: 1" = 100' Elevation in Feet
N

Basemap: Master GVWLB.dwg; Master Geometrics.dwg (shown in magenta), Temp Creek Crossing.dwg (shown in purple) El Dorado County Department of Transportation

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The Replace-in-Place Alternative would involve replacement of the existing Green Valley Road Bridge in the same location. This alternative would have the least impact on the riparian corridor. This alternative was rejected because it would not remove the existing sharp radius horizontal curve, nor would it allow a design speed that is compatible with the road classification. This alternative would require closure of the bridge for an extended period of time. The bridge is one of three crossings of Weber Creek. For traffic circulation and safety, the road cannot be closed for more than four to six months.

A 35-mile per hour (mph) bridge design speed would shift the alignment further downstream, require a substantially larger bridge that might require center piers in Weber Creek, and increase the amount of ROW take on adjacent properties. This alternative would have greater impacts on the riparian corridor due to the larger footprint of the bridge.

The Proposed Alternative will be located downstream of the existing bridge. The bridge will be longer than the existing bridge in order to place the abutments outside the main creek bed. The new bridge deck will be approximately 11 ft higher than the existing bridge deck to provide adequate clearance to pass forecasted 100-year storm flows under the bridge without overtopping.

The redefined alignment will increase the safety on Green Valley Road. The proposed centerline alignment removes the sharp short radius horizontal curve and replaces it with a longer radius curve. A design speed of 25-mph was selected for this curve based upon the Green Valley Road alignment and road classification. The 25-mph design allows the existing bridge to remain in service during construction. This is an important design consideration.

The County is evaluating the likely sequence of construction to determine traffic control during construction. Traffic control may include signage, flagmen, and both short and long-term temporary road closures and detours. The County will maintain two-way traffic on the existing bridge for a majority of the bridge, western wall, eastern wall and western road construction. It will be necessary to provide only a continuous, single lane of controlled traffic with a temporary signal, or full closure of Green Valley Road bridge, during construction of the eastern road. Traffic control signs will be placed at Missouri Flat, Forni Road and Mallard Lane to detour traffic onto Hwy 50. Additionally, other minor operations may require temporary closures or full closures for short-term durations. The full closure may last for up to four months but would reduce the overall amount of construction time. The County will prepare a traffic control plan in conjunction with the engineering plans.

The in-water work period will be restricted to the period between 15 April and 15 October, unless DFG and USFWS provide approval of work outside that period. A temporary creek

crossing will be constructed downstream of the existing bridge. Several methods could be used to construct the temporary creek crossing. The abutments for the temporary creek crossing could be constructed with k-rails and clean gravel foundation. A steel or timber bridge deck would then be constructed. Temporary access roads are needed on the north and south banks of Weber Creek to access the temporary creek crossing. The temporary bridge deck and k-rails will be removed by 15 October.

The existing bridge will be removed after the completion of the new bridge. Demolition of the existing bridge will be performed in accordance with the Caltrans Standard Specifications modified to meet environmental permit requirements. All concrete and other debris resulting from the demolition of the existing bridge will be removed from the project site and disposed of by the contractor. The construction contractor will prepare a bridge demolition plan.

A soil nail wall will be constructed to stabilize the western bank, along the downstream side of the western bridge abutment. A mechanically stabilized earth (MSE) gabion wall and flood wall will be constructed along the outside of the soil nail wall. Two additional gabion walls will be constructed along Green Valley Road. One wall will contour the north side of Green Valley Road; the other will be located at the intersection of Green Valley Road and Lode Road. The gabion walls will receive an architectural treatment upon their completion. A 10 ft wide permanent access route will be constructed in front of the downstream east wall and a 2 ft wide permanent access route will be constructed in front of the downstream west wall.

Construction of the new bridge and falsework may require diversion and/or dewatering of Weber Creek during construction of the abutments. Excavations at the abutments may need to be dewatered. Flows would pass through the existing creek under the bridge. Diversion methods may include the use of water pillows, rock, sandbags, sheet piling, pipes or coffer dams, or other structural methods approved by the Project Engineer and DFG.

Groundwater and seepage in the dewatered area will be removed in accordance with Section 401 of the Clean Water Act (CWA). Best management practices (BMPs) will be implemented during construction to prevent concrete or other materials from entering the channel.

Rock slope protection (RSP) will likely be placed around the bridge abutments and wing walls to stabilize the creek banks and cover the fill on top of the footing. The RSP may extend from the bed of the creek below the ordinary high water mark (OHWM) to the top of bank above the OHWM. Additional RSP will be placed around the flood wall on the north side of the new road alignment. The RSP will be placed up to 2 feet above the 100 year high water elevation to protect the flood wall against scour and sliding of the approach fills. It is anticipated that the removal of the existing abutments and subsequent regrading will require RSP to be placed

along the lower portion of the creek bank as shown on the proposed project map.

Two utility poles north of the existing bridge will be relocated to four new poles on the south side of Green Valley Road. An existing culvert under Green Valley Road, north of the bridge, will be extended to accommodate the widened road. A ditch will be constructed along the eastern wall to outfall to the northeast bank of Weber Creek. A drain will be constructed along the south side of Green Valley Road and under Lode Road to outlet to the southwestern bank of Weber Creek. Other minor culverts may be necessary across private driveways. Lode Road and private driveways within the project area will be reconstructed to conform to the new profile of Green Valley Road.

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.

1.3. Preparation History

Under contract to El Dorado County Department of Transportation, Sycamore Environmental Consultants prepared this Natural Environment Study (NES), a Preliminary Jurisdictional Delineation Report (Appendix F), a Site Assessment and Field Survey Report for California red-legged frog (Appendix E), and a Biological Assessment (Appendix J) for the Project.

Personnel involved with preparation of this NES include: Jeffery Little, Project Manager, Chuck Hughes, M.S., Botanist/ Biologist/ ISA Certified Arborist (WE-6885A), Jessica Easley, Biologist / ISA Certified Arborist (WE-7845A), conducted field surveys, and Leane Scott, Biologist / ISA Certified Arborist (WE 7368A) conducted field surveys. Jared Birdsall and Aramis Respall, CAD operators, prepared report figures and calculated Project impacts. Cynthia Little, Senior Editor, edited documents and ensured quality control.

Chapter 2. Study Methods

Study methods included conducting field surveys, consulting with agency personnel, and reviewing agency documents, published and unpublished literature, maps, and engineering drawings.

Information on the biology, distribution, taxonomy, legal status, and other aspects of the special-status species was obtained from documents on file in the consultant's library. Standard references used for the biology and taxonomy of plants included: Abrams (1923-1960), California Department of Fish and Game (DFG 2007, 2010a), California Native Plant Society (CNPS 2008, 2010), Hickman, ed. (1993), Mason (1957), Munz (1959), and Sawyer and Keeler-Wolf (1995). Standard references used for the biology and taxonomy of wildlife included: Behler and King (1979), DFG (2010a), Ehrlich et al. (1988), Jameson and Peeters (2004), Jennings and Hayes (1994), Mayer and Laudenslayer, eds. (1988), McGinnis (1984), Peterson (1990), Stebbins (2003), Udvardy (1977), Verner and Boss (1980), Whitaker (1980), and Zeiner et al. (1988; 1990a, b).

2.1. Regulatory Requirements

The purpose of the NES is to document biological studies and perform analyses and evaluations necessary to satisfy the legal requirements of State and federal statutes. These statutes include:

- National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.);
- Section 404 of the Clean Water Act (33 U.S.C. 1251-1376);
- Section 401 Water Quality Certification (33 U.S.C. 1341);
- Section 402 of the Clean Water Act (33 U.S.C. 1342)
- Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.);
- Section 1602 of the California Fish and Game Code pertains to streambed alterations;
- Federal Endangered Species Act (16 U.S.C. 1531-1543);
- Fish and Wildlife Coordination Act (16 U.S.C. 661-666);
- National Wild and Scenic Rivers Act (16 U.S.C. 1271-1287);
- Executive Order 11990, Protection of Wetlands (May 24, 1977);
- California Environmental Quality Act (P.R.C. 21000 et seq.);
- California Endangered Species Act (California Fish and Game Code 2050 et seq.);
- Native Plant Protection Act (California Fish and Game Code 1900-1913);
- California Wild and Scenic Rivers Act (P.R.C. 5093.50 et seq.);

- Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711);
- Magnuson-Stevens Fishery Conservation and Management Act (as amended through 11 October 1996);
- Executive Order 13112, Invasive Species (3 February 1999).

Section 404 Permit - U.S. Army Corps of Engineers (Corps)

The Corps and the U.S. Environmental Protection Agency regulate the discharge of dredge and fill material into "waters of the United States" under Section 404 of the Clean Water Act (33 U.S.C. 1344). The Corps issues permits for certain dredge and fill activities in waters of the U.S. pursuant to the regulations in 33 CFR 320-330.

Section 401 Water Quality Certification - Regional Water Quality Control Board

Under Section 401 of the Clean Water Act (33 U.S.C. 1341), applications for a federal permit or license for any activity that may result in a discharge to a water body, require a State Water Quality Certification to ensure that the proposed activity complies with state water quality standards.

Section 402 of the Clean Water Act - NPDES Phase II Permit - Regional Water Quality Control Board

Section 402(p) of Clean Water Act establishes a permit under the National Pollution Discharge Elimination System Permit (NPDES) program for discharges of storm water resulting from ground disturbing construction activities, such as grading. For ground disturbing construction activities in excess of one acre (ac) a NPDES Phase II permit from the RWQCB is required. The preparation of a Stormwater Pollution Prevention Plan (SWPPP) is a requirement of the NPDES Phase II permit.

Federal Endangered Species Act (FESA)

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). If a federal-listed animal could be harmed, harassed, injured, or killed by a project, a Section 7 consultation is initiated by a federal agency or a Section 10 consultation is initiated by a local agency or private applicant. Formal consultations culminate with a Biological Opinion and may result in the issuance of an Incidental Take Permit.

Federal Migratory Bird Treaty Act (MBTA)

All migratory birds are protected under the federal MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Part 21). Any construction-related disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

Section 1602 Streambed Alteration Agreement - Department of Fish and Game (DFG)

Section 1602 of the DFG Code requires any person, government agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel or bank of any river, stream, or lake, or proposes to use any material from a streambed, must first notify DFG of such proposed activity.

California Endangered Species Act (CESA)

CESA prohibits take of wildlife and plants listed as threatened or endangered by the California Fish and Game Commission. "Take" is defined under California Fish and Game Code as any action or attempt to "hunt, pursue, catch, capture, or kill." CESA allows exceptions for take that occurs during otherwise lawful activities. Section 2081 of the California Fish and Game Code describes the requirements needed for incidental take applications under CESA. Incidental take of state-listed species may be authorized if an applicant submits a plan that minimizes and mitigates the impacts of take.

California Fish and Game Code

The California Fish and Game Code defines 'take' (Section 86) and prohibits 'taking' of a species listed as threatened or endangered under CESA (California Fish and Game Code Section 2080) or otherwise fully protected, as defined in California Fish and Game Code Sections 3511, 4700, and 5050.

Other Special-Status Species Classifications

Other special-status species classifications evaluated in this NES include California Species of Special Concern (SSC), species on lists 1B and 2 of the California Native Plant Society (CNPS 2008, 2010), plants listed under the California Native Plant Protection Act, and active raptor

nests.

Invasive Plant Species

Section 5.4 evaluates invasive plant species in the study area. Executive Order 13112, issued 3 February 1999, directs federal agencies, whose actions may affect the status of invasive plant species, to use relevant programs and authorities to prevent the introduction of invasive species, control existing populations of such species, monitor populations of such species, and provide for the restoration of native species. The Federal Highway Administration (FHWA) is ordered to not authorize, fund, or carry out projects that are likely to cause or promote the introduction or spread of invasive species.

The California Invasive Plant Council (Cal-IPC) maintains an inventory of invasive nonnative plants that threaten wildland areas of California (Cal-IPC 2006). Assessments are based on Warner et al. (2003; "Criteria for Categorizing Non-Native Plants that Threaten Wildlands"). The Cal-IPC inventory involves evaluation of ecological impacts, invasive potential, and ecological distribution. Species receive an overall rating of High, Moderate, or Limited. Ratings are defined below (Cal-IPC 2006).

> **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."

2.2. Studies Required

A list from the U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office, was

obtained on 8 August 2008 and updated on 24 August 2010. The list identifies federal-listed, candidate, or proposed species that potentially occur in or could be affected by projects on the Placerville USGS quad or in El Dorado County. The list, data dated 29 April 2010, is in Appendix A.

The California Natural Diversity Database (CNDDB, data dated 1 May 2010; Appendix B) was queried for the Placerville USGS topographic quad and the eight surrounding quads (Table 1) to determine known occurrences of special-status species in or near the BSA.

Table 1. USGS Quads Evaluated for the Green Valley Road Bridge Replacement Project

Coloma	Garden Valley	Slate Mountain
Shingle Springs	Placerville	Camino
Latrobe	Fiddletown	Aukum

Data received from USFWS and CNDDB records were used to compile a table of regional species and habitats of concern (Table 2). Biological surveys consisted of walking through the BSA to determine if any special-status species or their habitat were present. Plant species and plant communities were identified and recorded. Wildlife species observed, their sign, and potential habitats were recorded. Appendix C is a list of plant and wildlife species observed during surveys. Photographs of the BSA are in Appendix D.

A Preliminary Jurisdictional Delineation Report (Sycamore Environmental 2009b) of waters of the U.S., including wetlands, was prepared to identify jurisdictional features regulated under Section 404 of the Clean Water Act (CWA; Appendix F).

A combined Site Assessment and Field Survey report (Sycamore Environmental 2009c) was prepared for the federal-listed threatened and state-listed threatened California red-legged frog (Appendix E).

2.3. Personnel and Survey Dates

Chuck Hughes, M.S., and Jessica Easley conducted fieldwork for the jurisdictional delineation and biological survey on 6 June 2008. Leane Scott conducted an additional site visit on 5 August 2008. Mr. Hughes and Ms. Easley conducted a tree survey on 30 September 2008. Ms. Easley conducted site visits on 9 June and 31 August 2010 to review the updated BSA boundary.

Protocol CRLF breeding season surveys were conducted by Ms. Easley and Ms. Scott on 17

April 2008, by Ms. Scott and Christina Owens, M.S., on 18 and 25 April 2008, and by Ms. Easley and Ms. Scott on 6 and 13 May 2008. Protocol CRLF non-breeding season surveys were conducted by Ms. Easley and Ms. Scott on 17 July 2008.

2.4. Agency Coordination and Professional Contacts

Janet Postlewait, Principal Planner at the El Dorado Department of Transportation, was contacted on various dates to discuss project related issues.

Jennifer Maxwell, P.E., Senior Civil Engineer at the El Dorado Department of Transportation, was contact to discuss various project components.

Dwight Anderson, P.E., Associate Civil Engineer at the El Dorado Department of Transportation, was contacted to discuss various project components.

Arnold Roessler and Jeremiah Karuzas with the USFWS and Suzanne Melim with the California Department of Transportation attended a field meeting to discuss project impacts to CRLF.

Gary Hobgood with the California Department of Fish and Game was contacted regarding geotechnical survey access.

2.5. Limitations That May Influence Results

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

Chapter 3. Results: Environmental Setting

The BSA is located in a rural residential area in the western foothills of the Sierra Nevada. Land use adjacent to the BSA consists of rural residential housing.

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Biological Study Area

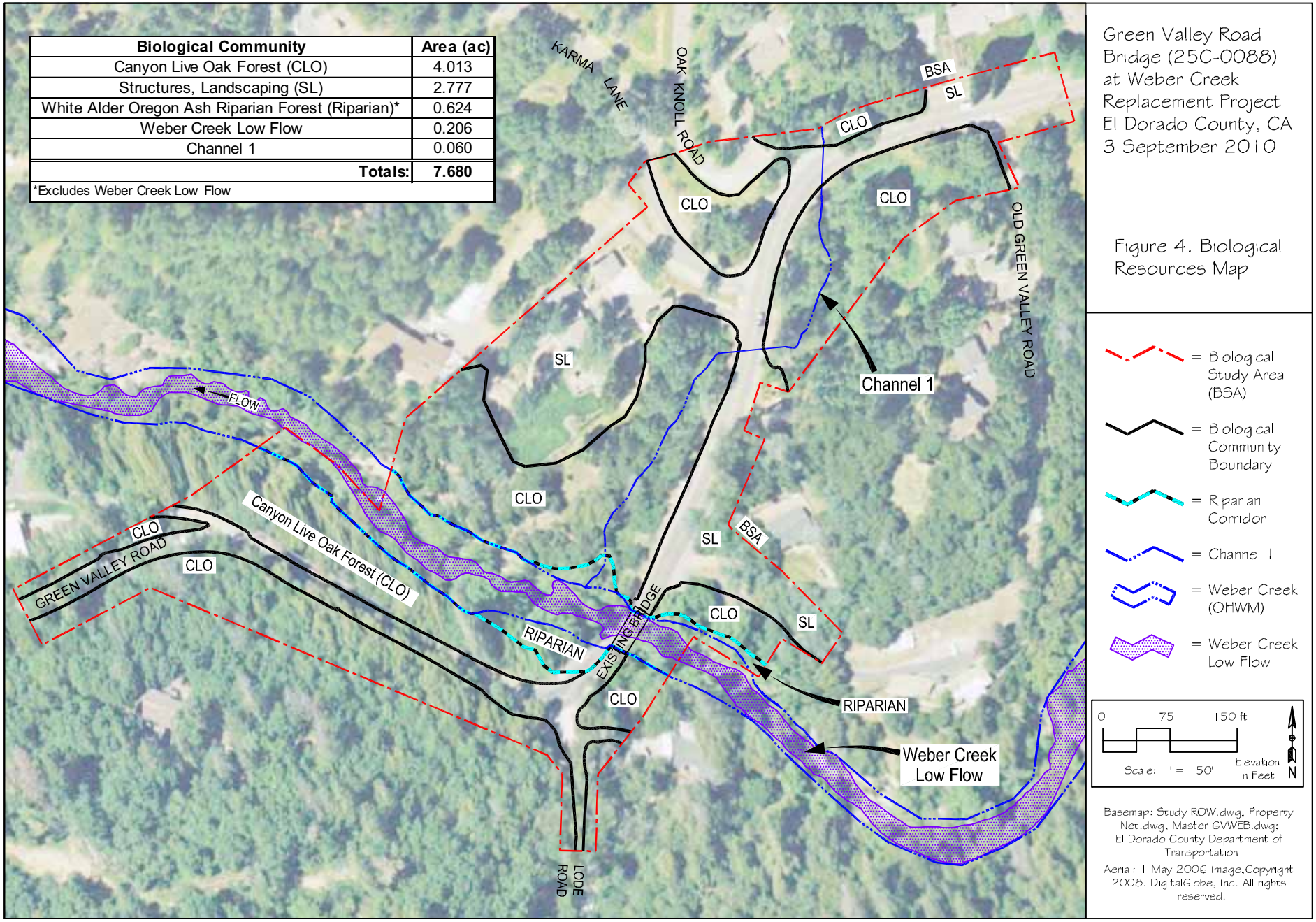
Green Valley Road and Weber Creek are the main physical features in the BSA. Weber Creek flows in a westerly direction through the BSA. The western edge of the approximately 7.68 ac BSA is located along Green Valley Road approximately 0.2 mi east of the intersection with El Dorado Road. The eastern edge of the BSA is located along Green Valley Road approximately 0.06 mi east of the intersection with Oak Knoll Road (Figure 2).

3.1.2. Physical Conditions

The BSA is on the Placerville quad (T10N, R10E, section 14). Elevation in the BSA ranges from approximately 1,450 to 1,580 ft above sea level. The BSA is in the South Fork American hydrologic unit (hydrologic unit code 18020129) and its centroid is 38.7224º north, -120.8457º west, UTM coordinate 687,300 meters E, 4,288,200 meters N, Zone 10N (1983 NAD). Rural residential development occurs adjacent to the BSA boundaries.

3.1.3. Biological Conditions in the BSA

Biological communities are defined by species composition and relative abundance. Biological communities in the BSA include canyon live oak (*Quercus chrysolepis*) forest, white alder-Oregon ash (*Fraxinus latifolia-Alnus rhombifolia*) riparian forest, structures and landscaping, Weber Creek, and an unnamed channel (CH 1). The biological communities are mapped on Figure 4. The BSA occurs in the County designated important biological corridor (IBC) overlay. Invasive plant species in the BSA are discussed in Chapter 5.4.



Biological Community	Area (ac)
Canyon Live Oak Forest (CLO)	4.013
Structures, Landscaping (SL)	2.777
White Alder Oregon Ash Riparian Forest (Riparian)*	0.624
Weber Creek Low Flow	0.206
Channel 1	0.060
Totals:	**7.680**

*Excludes Weber Creek Low Flow

Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project
El Dorado County, CA
3 September 2010

Figure 4. Biological Resources Map

= Biological Study Area (BSA)

= Biological Community Boundary

= Riparian Corridor

= Channel 1

= Weber Creek (OHWM)

= Weber Creek Low Flow

Basemap: Study ROW.dwg, Property Net.dwg, Master GVWEB.dwg; El Dorado County Department of Transportation

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Sensitive biological communities in the BSA are canyon live oak forest, white alder-Oregon ash riparian forest, Weber Creek, and CH 1. These features are discussed in Section 4.0. Other features in the BSA are:

Structures and Landscaping: The BSA includes several residences located along Green Valley Road. Ornamental and landscaped shrubs, trees, and lawn occur in the BSA near these residences. Several native oak and pine trees also occur in this community around the residences and driveways. Paved and gravel roadways in the BSA are Green Valley Road and several side streets.

Wildlife species observed in the BSA include bullfrog (*Rana catesbiana*), northern alligator lizard (*Gerrhonotus coeruleus*), western gray squirrel (*Sciurus griseus*), mule deer (*Odocoileus hemionus*), American robin (*Turdus migratorius*), spotted-towhee (*Pipilo maculatus*), Anna's hummingbird (*Calypte anna*), and black phoebe (*Sayornis nigricans*).

3.2. Regional Species and Habitats of Concern

Data received from USFWS, CNDDB records, and DFG species lists were used to compile a table of regional species and habitats of concern (Table 2). Table 2 provides a general habitat description for each species and a rationale as to why regional species and habitats of concern are either present or absent from the BSA.

Table 2. Listed and Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the BSA

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Invertebrates						
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT, FCH	--	Requires an elderberry shrub (*Sambucus mexicana* or *Sambucus racemosa* var. *microbotrys*) as a host plant (USFWS 1999a).	Absent	There are no elderberry shrubs in the BSA. There is no habitat for this species in the BSA.
Lepidurus packardi	Vernal pool tadpole shrimp	FE, FCH	--	Occurs in a variety of vernal pool habitats (USFWS 1994a).	Absent	There are no vernal pools in the BSA. There is no habitat for this species in the BSA.
Fish						
Hypomesus transpacificus	Delta smelt	FT, FCH	T	Euryhaline (tolerant of a wide salinity range) species that spawns in freshwater dead-end sloughs and shallow edge-waters of channels of the Delta (USFWS 1994b).	Absent	The BSA is outside of the geographic range of this species. There is no habitat for this species in the BSA.
Oncorhynchus (=*Salmo*) *clarki henshawi*	Lahontan cutthroat trout	FT	--	There are three populations of this species known: 1) Western Lahontan basin comprised of Truckee, Carson, and Walker river basins; 2) Northwestern Lahontan basin comprised of Quinn River, Black Rock Desert, and Coyote Lake basins; and 3) Humboldt River basin (USFWS 1994c).	Absent	The BSA is outside the geographic range of this species.
Oncorhynchus mykiss	Central Valley steelhead distinct population segment (DPS)	FT, FCH	--	Historically, this species was widely distributed in the Sacramento and San Joaquin drainages. While steelhead are found elsewhere in the Sacramento River system, the principal remaining wild populations are a few hundred fish that spawn annually in Deer and Mill Creeks in Tehama County and a population of unknown size in the lower Yuba River (Moyle 2002). With the possible exception of a small population in the lower Stanislaus River, steelhead appear to have been extirpated from the San Joaquin basin (Moyle 2002). Spawning occurs in small tributaries on coarse gravel beds in riffle areas (Busby et al. 1996).	Absent	The Nimbus Dam on the American River is an impassible dam that represents the upstream extent of Pacific salmon EFH.
Oncorhynchus tshawytscha	Central Valley spring-run Chinook salmon evolutionarily significant unit (ESU)	FT, FCH	ST	Extant populations of this Evolutionarily Significant Unit (ESU) spawn in the Sacramento River and its tributaries. Populations in the San Joaquin River are believed to be extirpated (NMFS 1998). Enters the Sacramento River from March to July and spawns from late August through early October. Adult female Chinook will prepare a spawning bed in a stream with suitable gravel composition, water depth, and velocity. After hatching, fry and subyearlings return to the ocean and complete their development (McGinnis 1984). Species exists today only in the Sacramento River drainage (Moyle 2002).	Absent	The Nimbus Dam on the American River is an impassible dam that represents the upstream extent of Pacific salmon EFH.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Oncorhynchus tshawytscha	Winter-run Chinook salmon, Sacramento River	FE	SE	Once found throughout the upper Sacramento River basin, the winter-run Chinook salmon ESU is now confined to the mainstem Sacramento River below Keswick Dam (Moyle 2002). Adults enter the Sacramento River from December through July and spawn from April to July. Adult female Chinook will prepare a spawning bed in a stream with suitable gravel composition, water depth, and velocity (McGinnis 1984).	Absent	The Nimbus Dam on the American River is an impassible dam that represents the upstream extent of Pacific salmon EFH.
Amphibians						
Ambystoma californiense	California tiger salamander, central population	FT	ST	Frequents grassland, oak savannah, and edges of mixed woodland and lower elevation coniferous forest. Spends much time underground in mammal burrows. Usually breeds in temporary ponds such as vernal pools but may also breed in slower parts of streams and some permanent waters (Stebbins 2003). Ponds with large populations of California tiger salamander larvae usually contain very few larvae of other amphibian species (Zeiner et al. 1988). Requires long-lasting vernal pools to complete larval development of a minimum of approximately 10 weeks (Jennings and Hayes 1994).	Absent	The BSA is outside the geographic range of this species. There is no habitat for this species in the BSA.
Bufo canorus	Yosemite toad	FC	SSC	Restricted to the vicinities of wet meadows in the central high Sierra. Occurs at elevations of 6,400 to 11, 300 ft. Frequents montane wet meadows, but also occurs in seasonal ponds associated with lodgepole pine and sub-alpine conifer forests (Zeiner et al. 1988).	Absent	The BSA is outside the elevation and geographic range of this species. There is no habitat for this species in the BSA.
Rana draytonii	California red-legged frog	FT, FCH	SSC	Inhabits quiet pools of streams, marshes, and occasionally ponds. Requires permanent or nearly permanent pools for larval development (Zeiner et al. 1988).	Present	See Section 4.2.1
Rana boylii	Foothill yellow-legged frog	--	SSC	Occurs in woodland and forest areas near streams and rivers, especially near riffles where there are exposed rocks. Requires permanent streams in which to reside (Zeiner et al. 1988).	Present	See Section 4.2.2
Rana muscosa	Mountain yellow-legged frog	FC	SSC	Occurs primarily at elevations above 5,900 ft in the Sierra Nevada from Plumas Co. to southern Tulare Co. Associated with streams, lakes, and ponds in montane riparian, lodgepole pine, sub-alpine conifer, and wet meadow habitat types. Always encountered within a few feet of water (Zeiner et al. 1988).	Absent	The BSA is below the elevation range of this species.
Reptiles						
Actinemys marmorata	Northwestern pond turtle (NWPT)	--	SSC	Prefers aquatic habitats with abundant vegetative cover and exposed basking sites such as logs. They are associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams (Zeiner et al. 1988).	Present	See Section 4.2.3

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Phrynosoma blainvillii	Coast (California) horned lizard	--	SSC	Prefers sandy washes, flood plains and eolian deposits in valley-foothill hardwood, conifer, juniper, and annual grassland habitats. Needs loose soil for cover and reproduction. Range includes the coast ranges from Sonoma County to Mexico, and the Central Valley and Sierra foothills south of Tehama County. Found chiefly below 1,950 ft in the northern end of its range and 2,950 ft in the southern end. There is an isolated population in Siskiyou County (Zeiner et al. 1988).	Absent	All known records from El Dorado County are from gabbroic northern mixed chaparral. There is no habitat for this species in the BSA.
Thamnophis gigas	Giant garter snake (GGS)	FT	ST	Habitat requisites consist of 1) adequate water during the snake's active season (early spring through mid-fall) to provide food and cover; 2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; 3) grassy banks and openings in waterside vegetation for basking; and 4) higher elevation uplands for cover and refuge from flood waters during the snake's winter dormant season (USFWS 1999b).	Absent	The BSA is outside the geographic range of this species. There is no habitat for this species in the BSA.
Birds						
Accipiter gentilis	Northern goshawk	--	SSC	Breeds in the North Coast Ranges and through the Sierra Nevada, Klamath, Cascade, and Warner Mountains. Remains yearlong in breeding areas as a scarce to uncommon resident. Prefers middle and higher elevations, and mature, dense conifer and deciduous forests (Zeiner et al. 1990a). In the western U.S., characteristically nests in coniferous forests including those dominated by ponderosa pine (*Pinus ponderosa*; Bright-Smith and Mannan 1994, Reynolds et al. 1992, *in* NatureServe 2007), lodgepole pine (*Pinus contorta*; Squires and Ruggiero 1996, *in* NatureServe 2007), or in mixed forests dominated by various coniferous species including fir (*Abies* spp.), Douglas-fir (*Pseudotsuga menziesii*), cedar (*Thuja* spp.), hemlock, spruce (*Picea* spp.), and larch (*Larix* spp. ; Hayward and Escano 1989, Reynolds et al. 1982, *in* NatureServe 2007). Western birds also nest in deciduous forests dominated by aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), or willow (*Salix* spp.; McGowan 1975, cited in Squires and Reynolds 1997. Usually nests on north slopes, near water, in densest parts of stands, but close to openings (Zeiner et al. 1990a).	Absent	There is no habitat for this species in the BSA.
Agelaius tricolor	Tricolored blackbird	--	SSC	Forages on ground in cropland, grassland, and on pond edges. Nests near freshwater, preferably in emergent marsh of dense cattails or tules, but also in thickets of willow, blackberry, and wild rose. Highly colonial, nesting area must be large enough to support a minimum colony of about 50 pairs (Zeiner et al. 1990a).	Absent	Suitable nesting habitat does not occur in the BSA.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Strix nebulosa	Great gray owl	--	E	This species occurs between 4,500 and 7,500 ft in the Sierra Nevada from the vicinity of Quincy in Plumas Co. south to the Yosemite Region. Occasionally reported in Northwestern CA in winter and in the Warner Mts. in the summer. Breeds in old-growth red fir, mixed conifer, or lodgepole pine habitats, always in the vicinity of wet meadows. This species uses trees in dense forest stands for roosting cover and small trees and snags in, or on edge of, meadows for hunting perches. Nests in large, broken-topped snags 25 to72 ft above the ground. Often uses old hawk or eagle nests (Zeiner et al. 1990a).	Absent	The BSA is below the elevation range of this species.
Mammals						
Martes pennanti	Pacific fisher	FC	SSC	Permanent resident of Sierra Nevada, Cascades, Klamath Mountains, and the North Coast Range. Occurs above 3,200 ft in the Sierra Nevada and Cascades (Jameson and Peeters 2004). Prefers coniferous or deciduous riparian habitats with intermediate to large trees and closed canopies. Dens in tree/ log cavities and brush piles. Active yearlong, mostly nocturnal. Young born February through May (Zeiner et al. 1990b).	Absent	The BSA is below the elevation range of this species.
Plants			**/CNPS [b]**			
Allium jepsonii	Jepson's onion	--	--/ 1B.2	Bulbiferous perennial herb found in serpentine or volcanic soils of chaparral, cismontane woodland, and lower montane coniferous forest from 950 to 4,350 ft. Known from Butte, El Dorado, Placer, and Tuolumne counties. Blooms May through August (CNPS 2008).	Absent	There are no serpentine or volcanic soils in the BSA.
Arctostaphylos nissenana	Nissenan manzanita	--	--/ 1B.2	Evergreen shrub found in rocky closed-cone coniferous forest and chaparral from 1,475 to 3,610 ft. Known from El Dorado and Tuolumne counties. Blooms February through March (CNPS 2008).	Absent	There is no habitat for this species in the BSA.
Calochortus clavatus var. *avius*	Pleasant Valley mariposa lily	--	--/ 1B.2	Bulbiferous herb found Josephine silt loam and volcanic soils of lower montane coniferous forest from 1,000 to 5,904 ft. Known from Amador, Calaveras, El Dorado, and Mariposa cos. Blooms May through July (CNPS 2008).	Absent	There are no Josephine or volcanic soils in the BSA.
Calystegia stebbinsii	Stebbins' morning-glory	E	E/ 1B.1	A perennial rhizomatous herb found in serpentine or gabbroic soils in chaparral openings and cismontane woodland from 600 to 2,400 ft. Known from El Dorado and Nevada counties. Blooms April through July (CNPS 2008).	Absent	There are no serpentine or gabbroic soils in the BSA.
Ceanothus roderickii	Pine Hill ceanothus	E	R/ 1B.2	Evergreen shrub found in serpentine or gabbroic soils in chaparral and cismontane woodland from 850 to 2,100 ft. Known from El Dorado County. Blooms May through June (CNPS 2008).	Absent	There are no serpentine or gabbroic soils in the BSA.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Chlorogalum grandiflorum	Red Hills soaproot	--	--/ 1B.2	Perennial bulbiferous herb found in serpentine or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 800 to 3,300 ft. Known from Amador, Calaveras, El Dorado, Placer, and Tuolumne counties. Blooms May through June (CNPS 2008).	Absent	There are no serpentine or gabbroic soils in the BSA.
Clarkia biloba ssp. *australis*	Mariposa clarkia	--	--/1B.2	Annual herb found in serpentinite soil in chaparral and cismontane woodland from 985 to 3,230 ft. Known from El Dorado, Mariposa, and Tuolumne counties. Blooms May through July (CNPS 2010).	Absent	There are no serpentine soils in the BSA.
Clarkia biloba ssp. *brandegeae*	Brandegee's clarkia	--	--/ 1B.2	Annual herb found in chaparral, cismontane woodland, often roadcuts, from 960 to 2900 ft. Known from Butte, El Dorado, Nevada, Placer, Sierra, and Yuba counties. Blooms May through July (CNPS 2008).	Present	See Section 4.3.1
Fremontodendron decumbens	Pine Hill flannelbush	E	R/ 1B.2	Evergreen shrub found in rocky areas of serpentine or gabbroic soils in chaparral and cismontane woodland from 1,400 to 2,500 ft. Known from El Dorado and Nevada counties. Blooms April through July (CNPS 2008).	Absent	There are no serpentine or gabbroic soils in the BSA.
Galium californicum ssp. *sierrae*	El Dorado bedstraw	E	R/ 1B.2	Perennial herb found in gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 300 to 1,900 ft. Known from El Dorado County. Blooms May through June (CNPS 2008).	Absent	There are no gabbroic soils in the BSA.
Helianthemum suffrutescens	Bisbee Peak rush-rose	--	--/ 3.2	Evergreen shrub found in chaparral from 150 to 2,750 ft. Often found on serpentine, gabbroic or Ione soils. Known from Amador, Calaveras, El Dorado, Mariposa, Sacramento, and Tuolumne counties. Blooms April through June (CNPS 2008).	Absent	Habitat for this species does not occur in the BSA.
Horkelia parryi	Parry's horkelia	--	--/ 1B.2	Perennial herb found in chaparral and cismontane woodland, especially of the Ione formation, from 260 to 3,400 ft. Known from Amador, Calaveras, El Dorado, and Mariposa counties. Blooms April through September (CNPS 2008).	Present	See Section 4.3.2
Packera (=*Senecio*) *layneae*	Layne's ragwort (=butterweed)	T	R/ 1B.2	Perennial herb found in rocky areas with serpentine or gabbroic soils in chaparral and cismontane woodland from 650 to 3,300 ft. Known from El Dorado, Tuolumne, and Yuba counties. Blooms April through July (CNPS 2008).	Absent	There are no serpentine or gabbroic soils in the BSA.
Rorippa subumbellata	Tahoe yellow-cress	FC	E/ 1B.1	Rhizomatous herb found in decomposed granitic beaches of lower montane coniferous forest and meadows and seeps from 6,200 to 6,250 ft. Known in CA only from Lake Tahoe area in El Dorado, Nevada, and Placer cos. Blooms May through September (CNPS 2008).	Absent	The BSA is below the elevation range of this species. There is no habitat for this species in the BSA.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Viburnum ellipticum	Oval-leaved viburnum	--	--/ 2.3	Deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 700 to 4,600 ft. Known from Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, and Sonoma counties. Blooms May through June (CNPS 2008).	Present	See Section 4.3.3
Wyethia reticulata	El Dorado County mule ears	--	--/ 1B.2	Perennial rhizomatous herb found on clay or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 600 to 2,050 ft. Known from El Dorado County. Blooms May through July (Ayres and Ryan 1999, CNPS 2008).	Absent	There are no clay or gabbroic soils in the BSA.
Natural Communities						
Central Valley Drainage Hardhead/ Squawfish Stream		--	--/ --	Hardhead occur in low- to mid-elevation streams in the main Sacramento-San Joaquin drainage and in the Russian River. Their range extends from the Kern River in Kern County, in the south, to the Pit River in Modoc County in the north. In the San Joaquin drainage, the species is scattered in tributary streams and absent from valley reaches of the San Joaquin River. In the Sacramento drainage, the hardhead is present in most large tributary streams as well as in the Sacramento River. Hardhead are typically found in undisturbed areas of larger low- to mid-elevation streams, although they are also found in the mainstem Sacramento River at low elevations and in its tributaries to about 4,920 ft. They prefer clear, deep (>32 in) pools and runs with sand-gravel-boulder substrates and slow velocities. Hardhead are always found in association with Sacramento pikeminnow (squawfish) and usually with Sacramento sucker. They tend to be absent from streams where introduced species, especially centrarchids (sunfish), predominate and from streams that have been severely altered by human activity. Sacramento pikeminnow occur in clear rivers and creeks of central California and occur in small numbers in the Sacramento-San Joaquin Delta. They are most characteristic of low- to mid-elevation streams with deep pools, slow runs, and undercut banks, and overhanging vegetation. They are most abundant in lightly disturbed, tree lined reaches that also contain other native fish (Moyle 2002).	Present	See Section 4.1.3
Central Valley Drainage Resident Rainbow Trout Stream		--	--/ --	Rainbow trout occur in low order (high elevation) cold streams with a high gradient. These streams are dominated by rainbow trout and often riffle sculpin (Moyle and Ellison 1991).	Present	See Section 4.1.3

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Sacramento-San Joaquin Foothill/ Valley Ephemeral Stream		--	--/ --	Low elevation streams that flow primarily in response to winter and spring rainfall. Found in oak woodland/ valley grassland areas. Some water may be present in semi-permanent bedrock pools. Streams have a distinct succession of invertebrates and may be important spawning areas for Pacific treefrogs (*Hyla regilla*) and newts (*Taricha* spp.; Moyle and Ellison 1991).	Present	See Section 4.1.3

[a] **Status**: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP); Federal Candidate (FC), Federal Species of Concern (FSC), Federal Critical Habitat (FCH); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Species of Special Concern (SSC); Species of Local Concern (SLC); Proposed Critical Habitat (PCH); Critical Habitat [CH] - Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

[b] **CNPS List**. 1A = Presumed Extinct in CA; 1B = Rare or Endangered in CA and elsewhere; 2 = R/E in CA and more common elsewhere.

CNPS List Decimal Extensions: .1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 = Fairly endangered in California (20-80% occurrences threatened); .3 = Not very endangered in California (<20% of occurrences threatened or no current threats known).

[c] Absent = No habitat present and no further work needed. Present = habitat is, or may be present.

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

Species and habitats of concern identified in Table 2 as having habitat present in the BSA are further discussed in this chapter. Wetlands and waters potentially subject to CWA jurisdiction, oak woodlands subject to CA Public Resources Code §21083.4, birds listed under the Federal Migratory Bird Treaty Act, and birds listed under CA Fish and Game Code 3503.5 are also discussed.

Biological communities are defined by species composition and relative abundance. The biological communities described below correlate where applicable with the list of California terrestrial natural communities recognized by the CNDDB (DFG 2007, Klein et al. 2007) and the El Dorado County General Plan EIR (2004). Table 3 identifies the acreage of each biological community that will be affected by the bridge replacement project. A portion of the white alder – Oregon ash riparian forest occurs within the OHWM of Weber Ck, outside the low flow channel. Impacts to this portion of the channel are calculated as impacts to the riparian forest. The Project impacts are estimates based on preliminary engineering.

Table 3. Habitat Acreages and Project Impacts

Habitat Types in BSA/ DFG Vegetation Alliance/ Association [1, 2]	El Dorado County Major Habitat Type [3]	Existing Area (ac)*	Temporary Impact (ac)*	Permanent Impact (ac)*
Canyon Live Oak Forest	Montane Hardwood	4.013	1.462	0.636
Structures and Landscaping	--	2.777	N/A	N/A
White Alder-Oregon Ash Riparian Forest	Montane Riparian	0.624	0.366	0.145
Weber Creek (low flow)	--	0.206	0.184	0.005
Channel 1 (intermittent)	--	0.054	0.020	0.020
Channel 1 (ephemeral)	--	0.006	0.000	0.000
	Totals:	7.680	2.032	0.806

[1] DFG 2007
[2] Klein et al. 2007
[3] El Dorado County 2004
* Acres were calculated using AutoCAD® functions.

4.1. Natural Communities of Special Concern

Sensitive natural communities include rare communities, communities that are adversely affected by minimal disturbance, and communities that provide habitat for special-status plant or wildlife species.

4.1.1. Discussion of Canyon Live Oak Forest

4.1.1.1. SURVEY RESULTS

There are 4.013 ac of canyon live oak forest in the BSA. This community occurs in the undeveloped upland areas of the BSA. This community is dominated by canyon live oak in the overstory. Other tree species present include interior live oak (*Quercus wislizenii* var. *wislizenii*), black oak (*Quercus kelloggii*), grey pine (*Pinus sabiniana*), and ponderosa pine (*Pinus ponderosa*). California buckeye (*Aesculus californica*) is common in the understory. Common shrub species present are poison oak (*Toxicodendron diversilobum*) and toyon (*Heteromeles arbutifolia*). The herbaceous layer is sparse and composed of native and non-native annual grasses and forbs.

4.1.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

The limits of construction will be marked with temporary fencing to avoid and minimize impacts to trees that will be retained.

4.1.1.3. PROJECT IMPACTS

Approximately 1.462 ac of canyon live oak forest will be temporarily disturbed due to construction. The Project will result in the permanent loss of 0.636 ac of canyon live oak forest. Table 4 estimates the number of trees in the canyon live oak forest over 5 inches diameter at breast height (dbh) that will be removed by the Project based on the design dated 4 May 2010. Several trees located within the structures and landscaping community are also included in Table 4. Figure 5 shows the location of trees in the BSA and identifies which ones will be removed by the Project. The final tree removal determination will be made by El Dorado County Department of Transportation (DOT). Appendix H lists the trees in the BSA and individually identifies which ones will be removed based on the Project design dated 4 May 2010.

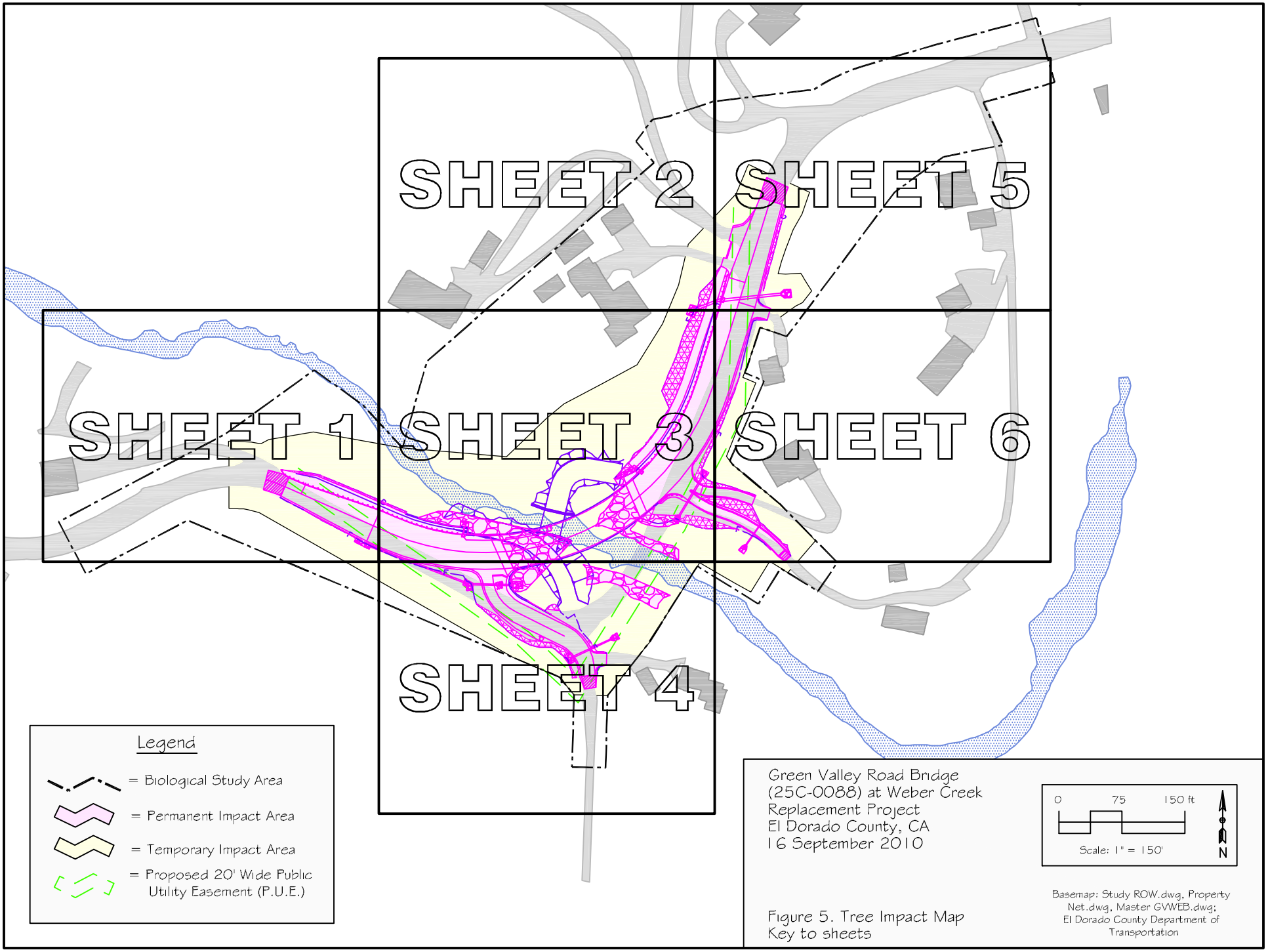

Figure 5. Tree Impact Map
Key to sheets

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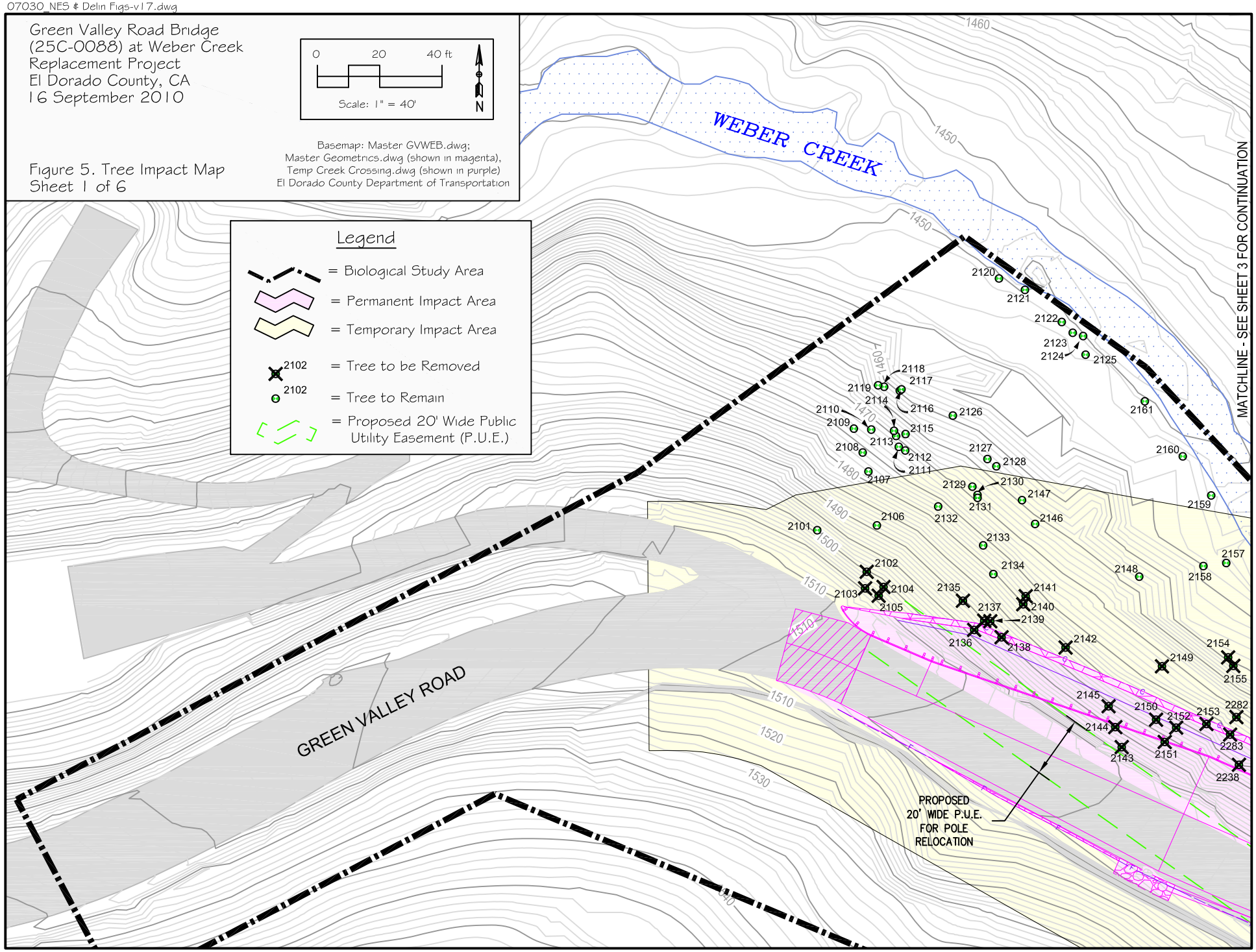
Green Valley Road Bridge
(25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA
16 September 2010

0 20 40 ft
Scale: 1" = 40'
N

Basemap: Master GVWEB.dwg;
Master Geometrics.dwg (shown in magenta),
Temp Creek Crossing.dwg (shown in purple)
El Dorado County Department of Transportation

Figure 5. Tree Impact Map
Sheet 1 of 6



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Green Valley Road Bridge
(25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA
16 September 2010

0 20 40 ft

Scale: 1" = 40'

N

Basemap: Master GVWEB.dwg;
Master Geometrics.dwg (shown in magenta),
Temp Creek Crossing.dwg (shown in purple)
El Dorado County Department of Transportation

Figure 5. Tree Impact Map
Sheet 2 of 6

Legend

= Biological Study Area

= Permanent Impact Area

= Temporary Impact Area

2102 = Tree to be Removed

2102 = Tree to Remain

1540

1530

1520

2320

2088

2085

2087

2089

2086

2090

2091

2084

2093

2095

2092

2037

2096

2036

2094

2035

MATCHLINE - SEE SHEET 5 FOR CONTINUATION

MATCHLINE - SEE SHEET 3 FOR CONTINUATION

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Green Valley Road Bridge
(25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA
16 September 2010

Figure 5. Tree Impact Map
Sheet 3 of 6

0 20 40 ft
Scale: 1" = 40'
N

Basemap: Master GVWEB.dwg;
Master Geometrics.dwg (shown in magenta),
Temp Creek Crossing.dwg (shown in purple)
El Dorado County Department of Transportation

Legend
= Biological Study Area
= Permanent Impact Area
= Temporary Impact Area
2102 = Tree to be Removed
2102 = Tree to Remain
= Proposed 20' Wide Public Utility Easement (P.U.E.)

MATCHLINE - SEE SHEET 2 FOR CONTINUATION
MATCHLINE - SEE SHEET 1 FOR CONTINUATION
MATCHLINE - SEE SHEET 4 FOR CONTINUATION
MATCHLINE - SEE SHEET 6 FOR CONTINUATION

GREEN VALLEY ROAD
TEMPORARY CREEK CROSSING
PROPOSED BRIDGE
EXISTING BRIDGE
PROPOSED 20' WIDE P.U.E. FOR POLE RELOCATION

11-1188.F.50

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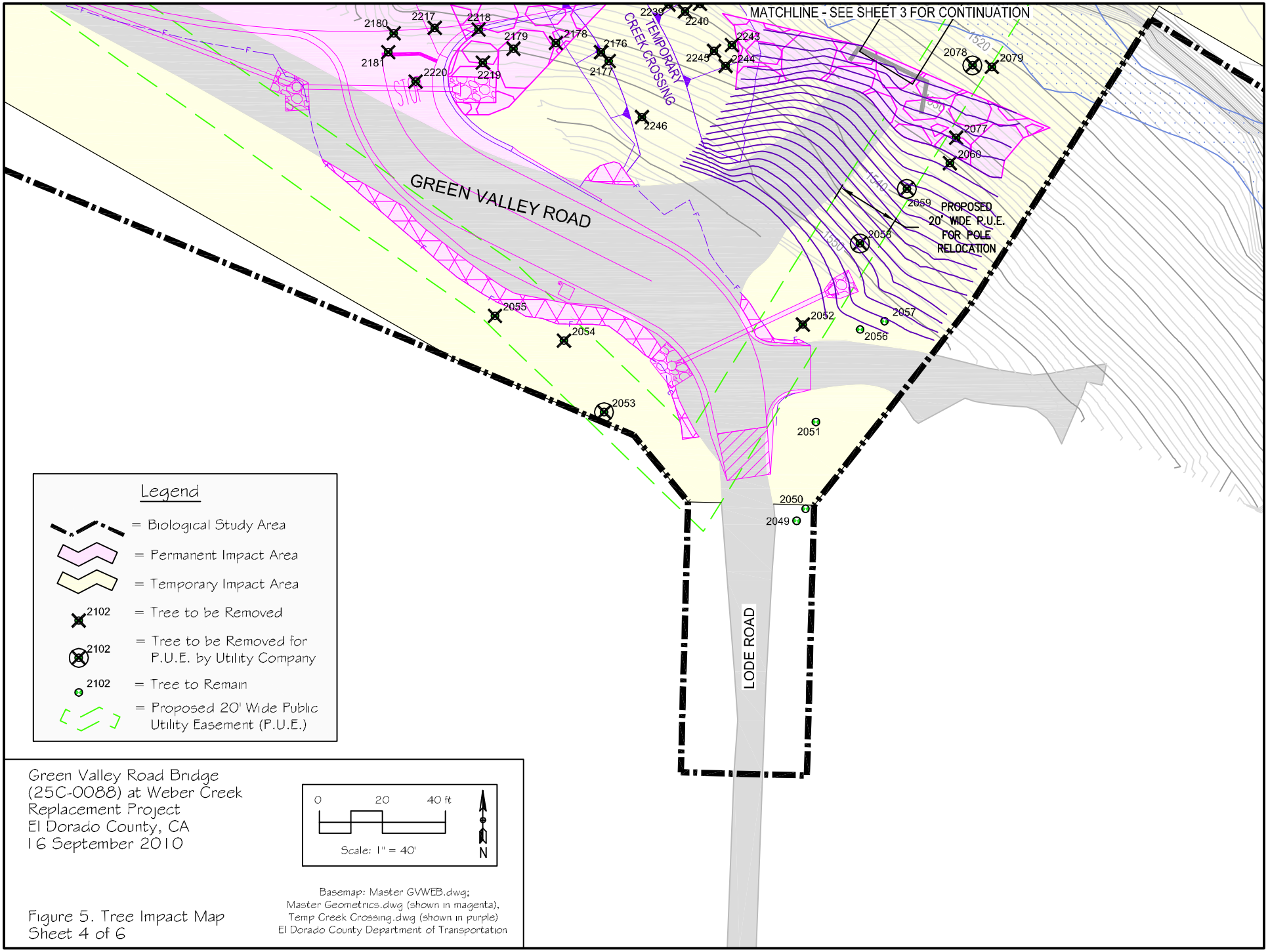

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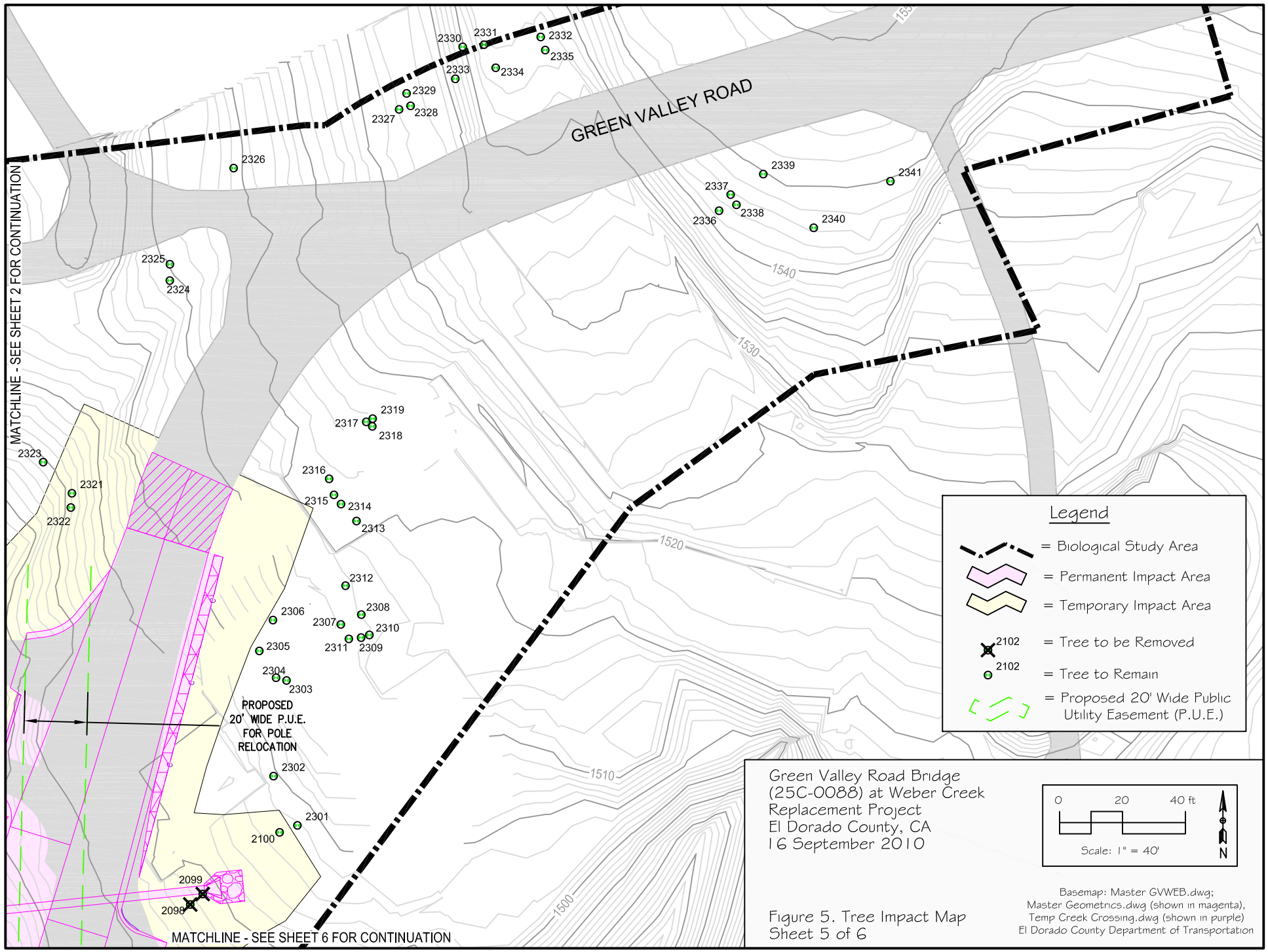

Figure 5. Tree Impact Map
Sheet 5 of 6

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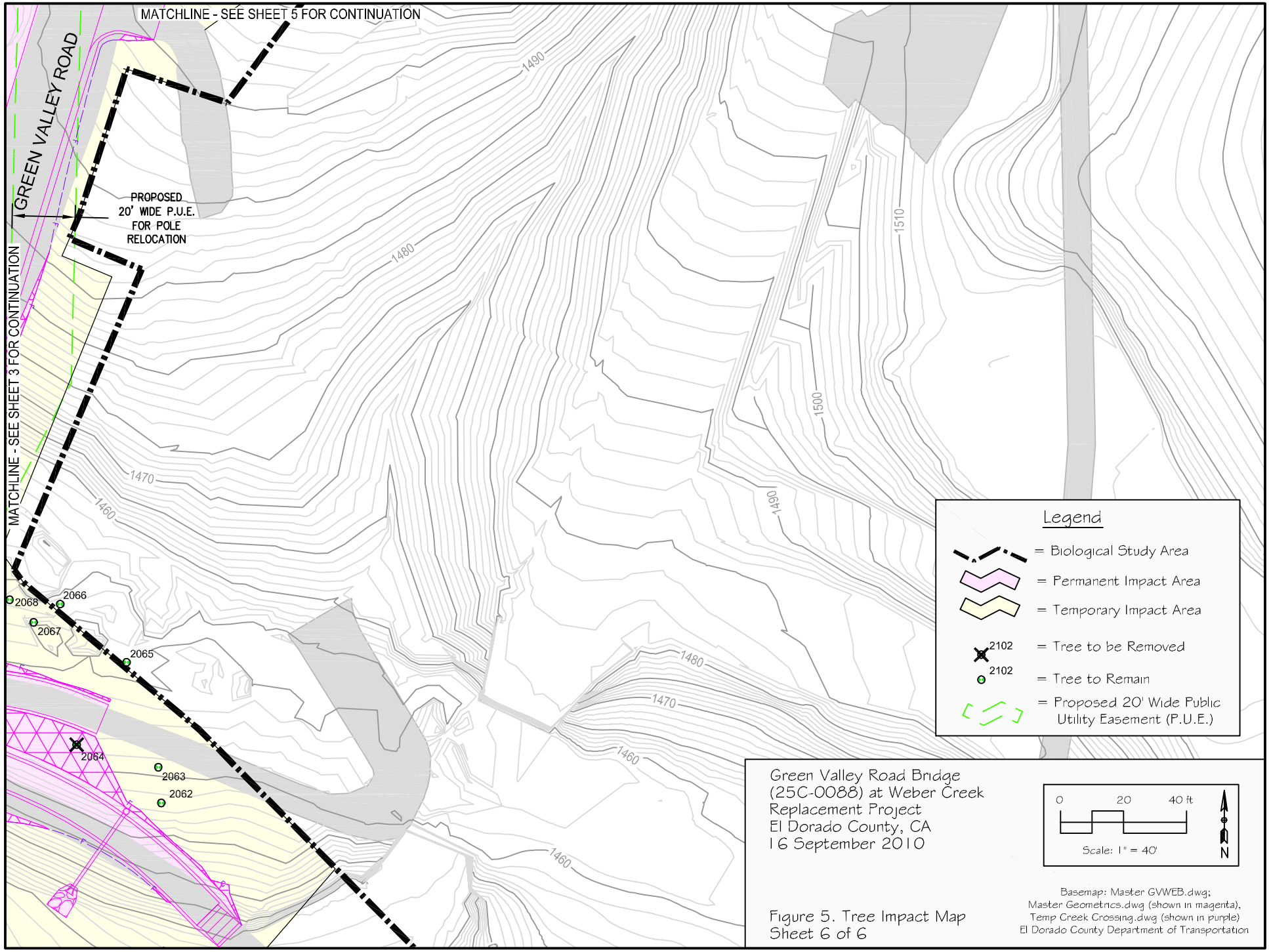

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Tree information was collected based on a 2008 project design. The BSA boundaries were slightly adjusted in 2010. Several areas where the boundary was expanded were not included in the tree survey. The areas not included in the survey occur along the east side of Green Valley Road, north of the bridge, where utility poles will be relocated, and along the south side of a private driveway, on the bank above Weber Creek, where a culvert outfall will be installed. Tree removal is expected to be minimal in these areas.

Up to four utility poles will be relocated to the south side of Green Valley Road into a new Public Utility Easement (PUE). It is anticipated that all trees within the new PUE will be removed. This includes three additional tree removals in the Canyon live oak forest. The utility company will be responsible for these tree removals.

Table 4. Tree Impacts in the Canyon Live Oak Forest

Tree Species		Number of Trees to be Removed over 5" DBH for Bridge Replacement	Number of Trees to be Removed over 5" DBH for PUE
Common Name	**Scientific Name**		
Interior live oak	*Quercus wislizenii* var. *wislizenii*	38	2
Canyon live oak	*Quercus chrysolepis*	39	
Black oak	*Quercus kelloggii*	7	
Blue oak	*Quercus douglasii*	2	
California buckeye	*Aesculus californica*	11	
Grey pine	*Pinus sabiniana*	2	
Ponderosa pine	*Pinus ponderosa*	1	
Fruit	*Prunus* sp.	1	1
	Total:	**101**	**3**

4.1.1.4. COMPENSATORY MITIGATION

Improvement projects to existing roads are exempt from County General Plan Policy 7.4.4.4 concerning impacts and mitigation to oak trees and woodlands (El Dorado County 2008). No compensatory mitigation is required for this upland biological community. The Replanting Plan (Appendix I) includes revegetation with riparian trees and canyon lives oaks in the disturbed areas along Weber Creek and CH 1.

4.1.1.5. CUMULATIVE EFFECTS

The Project will not result in cumulative effects to the canyon live oak forest.

4.1.2. Discussion of White Alder-Oregon Ash Riparian Forest

4.1.2.1. SURVEY RESULTS

There are 0.624 ac of white alder-Oregon ash riparian forest in the BSA. This riparian community occurs along the segment of Weber Creek in the BSA. Most of the riparian trees in this community are located within the OHWM of Weber Creek, outside of the low flow channel. The acreage of the white alder-Oregon ash riparian forest was calculated as the upper limit of the community to the edge of the low flow channel of Weber Creek. The open water/ low flow channel of Weber Creek was not included in the acreage calculation of the riparian forest. Riparian habitats in California provide food, water, migration and dispersal corridors, and nesting and breeding habitat for a variety of wildlife species (Mayer and Laudenslayer 1988). Through its effects on water quality, temperature, and nutrients, riparian vegetation influences the structure and functioning of stream ecosystems and fish communities.

Dominant tree species are white alder (*Alnus rhombifolia*) and Oregon ash (*Fraxinus latifolia*). The dominant shrub species is nonnative, invasive Himalayan blackberry (*Rubus discolor*; Cal-IPC 2006). Other species in the shrub layer include California wild grape (*Vitis californica*), poison oak (*Toxicodendron diversilobum*), and rose (*Rosa* sp.). White alder-Oregon ash association has a global and state ranking of G3S3 (Klein et al. 2007) and is considered of high inventory priority by DFG (DFG 2007).

4.1.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

White alder-Oregon ash riparian forest cannot be avoided during construction of the new bridge. Minimization efforts will include marking the limits of construction with temporary fencing to prevent affecting white alder-Oregon ash riparian forest outside the BSA. Trucks and other vehicles will not be allowed to park beyond, nor shall equipment be stored beyond, the fencing. No vegetation removal, ground disturbing activities, or burning will be permitted beyond the fencing. Incorporation of this mitigation measure will help ensure that construction is limited to the Project area to avoid the potential for impacts to Weber Creek and the white alder-Oregon ash riparian forest beyond those permitted by construction entitlements.

Implementation of the Replanting Plan (Appendix I) will revegetate the area along Weber Creek. Native riparian trees impacted or removed due to Project construction identified in Table 5 will be replaced at a 2:1 ratio (see Appendix I). Additional plantings include willow and alder canes in the RSP and canyon live oaks in the uplands along Weber Creek and CH 1. The utility company will be responsible for any trees removed as a result of the new PUE.

After the existing bridge and abutments are removed, the banks will be revegetated. Photos 10 and 13-16 (Appendix D) are representative of the areas that will be revegetated.

4.1.2.3. PROJECT IMPACTS

Impact acreage of the white alder-Oregon ash riparian forest was calculated to the edge of the low flow channel of Weber Creek. A total of 0.366 ac of white alder-Oregon ash riparian forest will be temporarily disturbed due to Project construction. The Project will result in the permanent loss of 0.145 ac of white alder-Oregon ash riparian forest in the BSA (Figure 3). A total of 0.086 ac of the riparian forest permanent impacts and 0.266 ac of the riparian forest temporary impacts occur within the OHWM, outside the low flow channel, of Weber Creek. Table 5 estimates the number of trees in the white alder-Oregon ash riparian forest over 5 inches dbh that will be removed by the Project based on the design dated 4 May 2010. Figure 5 shows the location of trees in the BSA and identifies which ones will be removed by the Project. The final tree removal determination will be made by El Dorado County DOT. Appendix H lists the trees in the BSA and individually identifies which ones will be removed based on the Project design dated 4 May 2010.

Up to four utility poles will be relocated to the south side of Green Valley Road into a new PUE. It is anticipated that all trees within the new PUE will be removed. This includes one additional tree removal in the white alder-Oregon ash riparian forest. The utility company will be responsible for these tree removals.

Table 5. Impacts to Riparian Trees in the White Alder-Oregon Ash Riparian Forest

Tree Species		Number of Riparian Trees to be Removed over 5" DBH for Bridge Replacement	Number of Riparian Trees to be Removed over 5" DBH for PUE
Common Name	**Scientific Name**		
Northern CA black walnut	*Juglans californica* var. *hindsii*	1	
Oregon ash	*Fraxinus latifolia*	24	
White alder	*Alnus rhombifolia*	14	1
Willow	*Salix* sp.	1	
	Total:	**40**	**1**

4.1.2.4. COMPENSATORY MITIGATION

Bridge repair and construction are exempt pursuant to County General Plan Policy 7.3.3.4

concerning riparian and wetland buffer and setback requirements (El Dorado County 2004). Implementation of the Replanting Plan (Appendix I) will revegetate the area along Weber Creek. Native riparian trees impacted or removed due to Project construction identified in Table 5 will be replaced at a 2:1 ratio. Additional plantings include willow and alder canes in the RSP and canyon live oaks in the uplands along Weber Creek and CH 1.

4.1.2.5. CUMULATIVE EFFECTS

With implementation of the revegetation measures, the Project will not result in cumulative effects to white alder-Oregon ash riparian forest.

4.1.3. Discussion of Weber Creek

Weber Creek is a perennial channel. Weber Creek is a potential Central Valley drainage hardhead/ squawfish stream, Central Valley drainage resident rainbow trout stream, and Sacramento-San Joaquin foothill/ valley ephemeral stream. These stream communities are considered sensitive resources by the DFG (2009). Weber Creek meets the criteria described in CNDDB for a Sacramento-San Joaquin foothill/ valley ephemeral stream. CNDDB classifies "ephemeral" streams differently than the U.S. Army Corps of Engineers. Under the CNDDB classification, ephemeral streams support the larval development of some aquatic invertebrates and amphibians. Under the Corps classification, ephemeral streams flow only for a few hours or days after precipitation events and hence cannot support such larval development. The streams labeled "ephemeral" on Figure 3 and 4 follow the Corps' classification and hence do not meet the criteria of a Sacramento-San Joaquin foothill/ valley ephemeral stream.

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 2004). The BSA is located within a County designated IBC overlay.

4.1.3.1. SURVEY RESULTS

Weber Creek flows west through the central portion of the BSA. The white alder-Oregon ash riparian community occurs along and within the OHWM of Weber Creek in the BSA. The acreage of the Weber Creek biological community was calculated as the low flow channel. The remaining acreage of Weber Creek outside the low flow channel, within the OHWM, was calculated in the white alder – Oregon ash riparian community.

Hydrology for Weber Creek originates outside and southeast of the BSA. Weber Creek drains to Folsom Lake and the American River west of the BSA. Weber Creek was flowing during the fieldwork. The bed of Weber Creek is composed of bedrock and mud. Weber Creek is mapped as a perennial stream on the USGS Placerville quad map and as R3UBH (Riverine, Upper Perennial, Unconsolidated Bottom, Permanently Flooded) on the National Wetlands Inventory (NWI) map (USFWS 1984).

4.1.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

During construction, water quality will be protected by implementation of best management practices (BMPs) to minimize the potential for siltation and downstream sedimentation of Weber Creek. Minimization efforts will include marking the limits of construction with temporary fencing to prevent affecting Weber Creek unnecessarily. Impacts will be minimized by conducting in-stream work between 15 April and 15 October, unless DFG and USFWS provide approval of work outside that period.

Graded areas will be revegetated and native riparian trees will be replanted in the BSA. Implementation of the Revegetation Planting and Erosion Control Specifications (Appendix G) and the Replanting Plan (Appendix I) will revegetate the area along Weber Creek. Table 6 identifies the type and quantity of restoration for the riparian community. Riparian habitat will be created when the existing bridge is removed and the banks are planted; riparian habitat will be restored in the temporarily impacted areas along Weber Creek and CH 1; and riparian habitat will be enhanced along Weber Creek where no construction impacts will occur.

Table 6. Riparian Restoration

Water Body Type	Created (acres)	Created (linear ft)	Restored (acres)	Restored (linear ft)	Enhanced (acres)	Enhanced (linear ft)
Riparian	0.037	40	0.329	590	0.177	282

4.1.3.3. PROJECT IMPACTS

The new abutments will be placed further apart than the existing abutments to increase the bridge span. Based on the preliminary Project design dated 4 May 2010, the southern abutment will partially encroach into the OHWM of Weber Creek. The northern edge of the southern abutment will be located approximately 12 ft within the OHWM and the southern edge of the southern abutment will be located approximately 30 ft above the OHWM. Rock slope protection (RSP) at the toe of the southern abutment will encroach within the OHWM of Weber Creek. The eastern abutment will be located between approximately 30 and 55 ft

outside of the OHWM. The old abutments will be removed. After the old abutments are removed, the width of the channel under the existing bridge will increase. The new bridge will increase the hydraulic opening which will reduce the existing high flow velocities and decrease backwater. The increased width between abutments will improve the terrestrial wildlife movement corridor in the BSA. Wildlife will be able to cross under the Green Valley Road Bridge above the OHWM of Weber Creek. The Project will not result in impacts to wildlife movement within the IBC.

RSP will likely be placed on the banks of Weber Creek around the abutments and wing walls to stabilize the creek banks and cover the fill on top of the footing. There will be 0.005 ac of permanent impacts to the low flow channel of Weber Creek as a result of placement of RSP. The Project will result in the temporary disturbance of 0.184 ac to the low flow channel of Weber Creek. Permanent and temporary impacts outside the low flow channel and within the ordinary high watermark are reported as impacts to the white alder – Oregon ash riparian forest. A total of 0.086 ac of the riparian forest permanent impacts and 0.266 ac of the riparian forest temporary impacts occur within the OHWM, outside the low flow channel, of Weber Creek. Temporary impacts to Weber Creek will occur a) when water is diverted through the BSA, b) when the temporary creek crossing is constructed, c) when work occurs in the dewatered channel bed, and d) when vegetation is cleared.

4.1.3.4. COMPENSATORY MITIGATION

Implementation of the Replanting Plan (Appendix I) will revegetate the area along Weber Creek. Native riparian trees impacted or removed due to Project construction identified in Table 5 will be replaced.

4.1.3.5. CUMULATIVE EFFECTS

With implementation of the revegetation measures, the Project will not result in cumulative impacts to Weber Creek.

4.1.4. Discussion of Channel 1

Channel (CH) 1 is a tributary to Weber Creek. Within the BSA, CH 1 is partially ephemeral and partially intermittent. CH 1 is culverted twice under Green Valley Road: once near Oak Knoll Road where CH 1 crosses to the east side of Green Valley Road, and once near Karma Lane where CH 1 crosses back to the west side of Green Valley Road. The portion of CH 1 north of the culvert near Oak Knoll Road is ephemeral and was not flowing during the delineation; the portion of CH 1 south of the culvert near Oak Knoll Road is intermittent and was flowing during the delineation. The intermittent portion of CH 1 likely maintains

intermittent flow due to landscape irrigation runoff and possibly a seep or leaking well.

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 2004). The BSA is located within a County designated important IBC overlay.

4.1.4.1. SURVEY RESULTS

CH 1 is a partially ephemeral and partially intermittent tributary to Weber Creek that flows south through the BSA. There is no riparian corridor associated with CH 1. CH 1 flows through the canyon live oak forest. Dominant vegetation along CH 1 is interior live oaks, grey pines, greater periwinkle (*Vinca major*), California buckeye (*Aesculus californica*), and Himalayan blackberry (*Rubus discolor*). Where CH 1 occurs on the east side of Green Valley Road, the Himalayan blackberry is so dense it obscures the channel bed. A few willows (*Salix* sp.) also grow along this portion of the channel.

Hydrology for CH 1 is provided by runoff from the surrounding uplands. The intermittent portion of CH 1 likely maintains intermittent flow due to landscape irrigation runoff and possibly a seep or leaking well. A paved roadside ditch at the eastern end of the BSA drains to the intermittent portion of CH 1. This ditch was dry during the 6 June 2008 delineation fieldwork, but was observed with water during the 5 August 2008 site visit. The lack of water earlier in the season and presence of water late in the season indicates the flow is likely a result of landscape irrigation runoff. The bed of CH 1 is composed of scoured cobble and small boulders. CH 1 is not mapped on the Placerville quad or NWI map.

4.1.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

During construction, water quality will be protected by implementation of best management practices (BMPs) to minimize the potential for siltation and downstream sedimentation of CH 1. Minimization efforts will include marking the limits of construction with temporary fencing to prevent affecting CH 1 unnecessarily. Impacts will be minimized by conducting in-stream work between 15 April and 15 October, unless DFG and USFWS provide approval of work outside that period.

Graded areas will be revegetated and native riparian trees will be replanted in the BSA. Implementation of the Revegetation Planting and Erosion Control Specifications (Appendix G) and the Replanting Plan (Appendix I) will revegetate the area along CH 1.

4.1.4.3. PROJECT IMPACTS

The culverts in CH 1 under Green Valley Road will be extended to accommodate the widened road. Based on the preliminary design dated 4 May 2010, approximately 120 ft of CH 1 on the west side of Green Valley Road, south of Karma Lane, will be realigned and placed in a rock-lined ditch. The realignment and placement of CH 1 in a rock-lined ditch will permanently impact the functions and values of CH 1, although CH 1 will still exist. During construction, the southern end of CH 1 will be temporarily diverted through a pipe at the temporary creek crossing. The construction of the new alignment of Green Valley Road will result in 0.020 ac of permanent impacts and 0.020 ac of temporary disturbance to the intermittent portion of CH 1. The ephemeral portion of CH 1 will not be impacted (Figure 3).

4.1.4.4. COMPENSATORY MITIGATION

Implementation of the Replanting Plan (Appendix I) will revegetate the area along Weber Creek and CH 1. Native riparian trees impacted or removed due to Project construction identified in Table 5 will be replaced.

4.1.4.5. CUMULATIVE EFFECTS

With implementation of the revegetation measures, the Project will not result in cumulative impacts to CH 1.

4.2. Special-Status Animal Species Occurrences

4.2.1. Discussion of California red-legged frog (CRLF; *Rana draytonii*)

CRLF habitat combines both a specific aquatic and riparian component. Adults typically require dense, shrubby, or emergent riparian vegetation closely associated with deep (>2 ft) 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. CRLF spend considerable time resting and feeding in riparian vegetation when it is present (USFWS 2002, 2005).

CRLF breed from November through April (Storer 1925 *in* USFWS 2002). Typically most adult CRLF lay their eggs in March. The eggs require approximately 20 to 22 days to develop into tadpoles, and tadpoles require 11 to 20 weeks to develop into terrestrial frogs (Bobzien et. al. 2000, Storer 1925, Wright and Wright 1949 *in* USFWS 2002). CRLF require water to breed. Female CRLF deposit egg masses on emergent vegetation so that the masses float on the surface of the water. Breeding habitats for CRLF vary from deep still or slow

moving water with 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. Stock ponds that have vegetative cover and few nonnative predators may be used by CRLF for breeding.

During summer, CRLF often disperse upstream or downstream from their breeding habitat to forage or seek aestivation habitat if water is not available. Aestivation habitat is essential for the survival of CRLF within a watershed. During dry periods, CRLF are rarely encountered far from water. Summer habitat could include spaces under boulders or rocks and organic debris, such as downed trees or logs; or industrial debris, such as drains and watering troughs. CRLF use small mammal burrows and moist leaf litter to aestivate during the summer if water is not available. CRLF use large cracks in the bottom of dried ponds as refugia. CRLF are frequently encountered in open grasslands occupying seeps and springs. Such bodies of water may not be suitable for breeding but may function as foraging habitat or refugia for frogs (USFWS 2002, 2005).

Introduced bullfrogs, crayfish, and species of fish have been a significant factor in the decline of CRLF (USFWS 2002). The combined effects of both nonnative frogs and nonnative fish often lead to extirpation of CRLF (Kiesecker and Blaustein 1998 and Lawler et al. 2000 *in* USFWS 2002).

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

Known Records: The closest two CNDDB records are located approximately 13 mi east of the BSA on the Sly Park Quad and 13 mi west of the BSA on the Clarksville quad. The Clarksville quad record is from 2005 and is located at the Folsom Lake State Recreation Area. One juvenile frog was observed in a small watercourse that drains into Folsom Lake. USFWS has not confirmed the record and it is most likely a misidentification (pers. comm., P. Trenham). The closest CNDDB record for a breeding population of CRLF is located approximately 13 mi east of the BSA in Spivey Pond on the north fork of Weber Creek in El

Dorado County. This population is one of the five remaining CRLF populations known from the Sierra Nevada (USFWS 2006). CRLF were observed at this location in July 1997, September 2002, September 2007, and April 2008.

An additional CNDDB record for CRLF occurs on the Georgetown Quad north of the BSA. The record location is considered sensitive information by CNDDB and is mapped as the entire quad. The southern edge of the Georgetown Quad is located approximately 10.7 mi north of the BSA. The record is from 2009 and habitat consists of a series of small pools/ wet areas in a small ephemeral drainage.

Critical Habitat has been designated for CRLF. The BSA does not occur in the designated Critical Habitat Unit in El Dorado County (USFWS 2006, 2010). On 17 March 2010, USFWS designated new CRLF critical habitat boundaries. The new boundaries cover over three times the acreage of the previous 2006 critical habitat boundaries. The BSA does not occur within the newly designated critical habitat (USFWS 2010).

4.2.1.1. SURVEY RESULTS

SURVEYS

A site assessment and field surveys were conducted in accordance with the USFWS *Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs* (2005). Breeding season field surveys were completed on 17, 18, and 25 April and 6 and 13 May 2008. Nonbreeding season field surveys were completed on 17 July 2008. CRLF were not observed during protocol field surveys, the site assessment survey, or general biological surveys. The Site Assessment and Field Survey Report is in Appendix E.

CRLF surveys for other projects have been conducted in the region of the BSA and also did not find CRLF. Sycamore Environmental conducted CRLF surveys for eight projects within the vicinity of the BSA and no CRLF were found. These projects are the Gateway Hotel and Gas Station Project (Sycamore Environmental 2004), a site assessment for a section of the El Dorado Trail in Smith Flat (Sycamore Environmental 1999), the 1890 Broadway Project (Sycamore Environmental 2006c), the Home Depot Placerville Project (Sycamore Environmental 2001a, b, 2006a, 2007, 2010), the Cambridge Pavilion-Cameron Park Project (Sycamore Environmental 2008b), the Indian Creek Project (Sycamore Environmental 2006b), the Blairs Lane Bridge (25C-0012) at Hangtown Creek Replacement Project (Sycamore Environmental 2005), and the Green Valley Road Bridge (25C-0038) at Tennessee Creek Replacement Project (Sycamore Environmental 2008a).

El Dorado County is widening U.S. 50 between Missouri Flat Road and Forni Road. The widening includes addition additional lanes to the U.S. 50 bridge over Weber Creek. Jones and Stokes completed protocol CRLF surveys in 2001 for the Hwy 50 Bridge widening over Weber Creek located approximately 0.6 miles southeast of the BSA (Jones and Stokes 2002). The Hwy 50 Bridge widening over Weber Creek began construction in spring of 2010. Sycamore Environmental conducted CRLF preconstruction surveys along Weber Creek on 3 February 2010, 4 May 2010, and 16 August 2010. Sycamore Environmental conducted daily (8 hours per day) construction monitoring for CRLF of in-water work in Weber Creek between 1 May and 18 May 2010 and once-a-week (3.5 hours per day) construction monitoring for CRLF of out-of-water work in the riparian corridor starting 21 May 2010. Out-of-water monitoring is scheduled to continue until 1 October 2010. Sycamore Environmental is contracted to conduct daily construction monitoring for CRLF of in-water work between approximately 4 October and 15 October 2010. No CRLF have been observed.

Jones and Stokes also conducted a CRLF site assessment and monitoring for the Dry Creek Bridge Replacement and Green Valley Road/ Lotus Road Intersection Realignment Project (Jones & Stokes 2001). No CRLF were observed during the surveys. The Site Assessment and Field Survey Report in Appendix E provides an expanded discussion of these surveys.

WATER FLOWS IN WEBER CREEK

Weber Creek in the BSA does not provide breeding habitat for CRLF due to the lack of emergent vegetation along the banks and the absence of deep, slow moving backwater or pools during the breeding season. There are no ponds or backwater areas mapped in Weber Creek within a mile of the Project site on the USFWS online wetlands mapper or on the Placerville USGS quad map.

Weber Creek in the Project area is subject to seasonally high flows during the breeding season that would wash out egg masses and/or tadpoles. The Draft Weber Creek Hydrologic and Hydraulic Analysis for the Green Valley Road Bridge Project (HDR 2008) defines the drainage area of Weber Creek at the Project location to be approximately 36 square miles. Table 7 shows the relationship of rainfall on peak flow volume in Weber Creek in the Project area. The rainfall and peak flow data for the 2.33-year storm event through the 100 year storm event is from the Hydrologic and Hydraulic Analysis Report (HDR 2008). Data for the 0.5 in and 1 in rainfall was extrapolated based on the data from the Hydrologic and Hydraulic Analysis Report.

The Placerville rain gauge has recorded 87 rainfall events in the last 19.5 years with an

accumulation of approximately 1.8 inches or more in a 24-hour period (2.33-year storm event and greater). These rainfall events most often occurred between November and March, during the CRLF breeding season. Additionally, there were 94 rainfall events between April and June with a daily accumulation of 0.5 inches or more (50 were recorded in April, 36 were recorded in May, and 8 were recorded in June). Attachment A is a table of the rainfall events measured by the Placerville rain gauge equal to or over one inch between January 1990 and July 2009. There have been 260 storms with 1" of precipitation (an average of 13 a year) during this period, with storms recorded in April and May.

The frequent, high flows in the Project area are not compatible with published CRLF breeding requirements. Weber Creek in the Project area provides significantly different habitat than Spivey Pond where CRLF are known to successfully reproduce. Spivey Pond, on the North Fork of Weber Creek, is a large pond with still water and plentiful emergent vegetation. Spivey Pond, being constrained by a man-made dam, is not subject to the high flow rates present in Weber Creek in the Project area.

Table 7. Change in Peak Flow and Water Levels in Weber Creek in the Project Area as a Result of Rainfall

Rainfall (Inches in 24-hr period)	Peak Flow (cfs)
0.5	1,500
1	3,000
1.79 (2.33-yr storm event) *	5,535.6 *
3.19 (10-yr storm event) *	10,240.3 *
3.98 (25-yr storm event) *	12,942.4 *
4.56 (50-yr storm event) *	14,882.3 *
5.14 (100-yr storm event) *	16,833.9 *

* Data from *Draft Weber Creek Hydrologic and Hydraulic Analysis, Green Valley Road Bridge Study, El Dorado County, CA* (31 October 2008)

POTENTIAL FOR DISPERSAL THROUGH THE CONSTRUCTION AREA

The closest known record of CRLF is located at Spivey Pond, 13 mi east of the Project site. A study conducted by Fellers and Kleeman (2007) showed that most CRLF do not disperse farther than the nearest suitable non-breeding habitat. A radio telemetry study of 115 CRLF in Olema Valley, Marin County, conducted over five and half years found that the majority

(69%) of CRLF moved less than 100 ft (straight-line) from breeding sites and, of that group, most frogs did not leave the breeding site. Of the frogs that traveled further, the median travel distance was 500 ft from breeding habitat. The furthest distance traveled was 0.87 mi (straight-line). Spivey Pond is located outside the dispersal range of the Project site and CRLF have not been found dispersing from this site. The population of CRLF at Spivey Pond has likely not moved downstream because Weber Reservoir provides a significant barrier due to the dense populations of bullfrogs and bass (pers. comm., Ehrgott 2009).

No CRLF were detected during the eight guideline surveys conducted for the Project in 2008. Since 2001, Sycamore Environmental has conducted seven guideline CRLF surveys for other projects in the vicinity of the Project site. In 2001, Jones and Stokes completed guideline CRLF surveys for the Hwy 50 bridge replacement over Weber Creek located approximately 0.6 miles southeast of the Project site. Guideline CRLF surveys were also conducted for the Sacramento Municipal Utility District (SMUD) Upper American River Project and Pacific Gas and Electric Company (PG&E) Chili Bar Project along Weber Creek and nearby stock ponds. An expanded discussion of these surveys is provided in Section V.C of the Site Assessment and Field Survey Report. No CRLF were detected in the vicinity of the Project site during the seven previous guideline CRLF surveys conducted by Sycamore Environmental Consultants, Inc., Jones & Stokes, or for the SMUD Upper American River Project and PG&E Chili Bar Project.

Of the four ponds located within a mile of the Project site, only one pond has no movement barriers to Weber Creek. This pond is located approximately 630 ft straight-line northeast of Weber Creek, east of the Project site. The Project site is located approximately 0.5 river miles downstream of this point. All of the other ponds located within a mile of the Project site are separated from Weber Creek by major roads, including, U.S. Highway 50, Green Valley Road, and El Dorado Road. Commercial and residential development between these private ponds and Weber Creek also impedes potential dispersal of CRLF into Weber Creek.

It is unlikely that CRLF would disperse into the Project site based on the distance to the nearest population of CRLF (13 mi to the east), the presence of movement barriers between potential breeding sites within one mile of the Project site, the presence of nonnative predators in Weber Reservoir located downstream of the Spivey Pond CRLF population, and the lack of evidence that CRLF occur within one mile of the Project site.

POTENTIAL FOR TEMPORARY IMPACTS

Because no CRLF breeding habitat exists within the Project, the only CRLF usage would be

summer refugia and upland dispersal habitat. CRLF are unlikely to occur in the Project area.

Removal of riparian trees and the potential diversion/dewatering in Weber Creek could cause temporary impacts to potentially dispersing CRLF by displacing them from the Project area until completion of construction.

The Project will remove approximately 40 riparian trees. Construction of the new bridge and falsework may require diversion and/or dewatering of Weber Creek during construction of the abutments. Excavations at the abutments may need to be dewatered. Flows would pass through the existing creek under the bridge. Diversion methods may include the use of water pillows, rock, sandbags, sheet piling, pipes or coffer dams, or other structural methods approved by the Project Engineer and DFG.

POTENTIAL FOR PERMANENT IMPACTS

During a coordination field meeting with the U.S. Fish and Wildlife Service (USFWS), Arnold Roessler and Jeremiah Karusas concurred that Weber Creek in the Project site did not provide suitable breeding or wintering CRLF habitat. Weber Creek in the Project site could be used for summer-time dispersal of CRLF.

The Project will not result in permanent impacts to CRLF dispersal habitat. Areas disturbed as a result of construction in the riparian corridor will be revegetated at a 2:1 ratio with similar riparian species. The Project will not result in a significant change to the hydrology of Weber Creek. The Draft Weber Creek Hydrologic and Hydraulic Analysis Report models the flow of Weber Creek in the Project site under current conditions and after construction completion. The report states that "Comparisons of the two hydraulic modeling scenarios indicate similar results for each corresponding storm frequency for the entire reach. In general, the water surface profiles for each scenario are the same…However, the upstream water surface elevations are slightly lower under the proposed conditions" (HDR 2008, pg 9 and figure 3). The Project will not change the potential summer refugia and upland dispersal opportunities for CRLF after construction.

The movement corridor along Weber Creek in the Project site will benefit as a result of the Project. The new abutments will be placed further apart than the existing abutments to increase the bridge span. The increased width between the abutments will improve the wildlife movement corridor along Weber Creek in the Project site. Wildlife will be able to cross under the Green Valley Road Bridge above the ordinary high water mark of Weber Creek.

The Project will not increase capacity for traffic on Green Valley Road. Uses of adjacent areas will not change as a result of this Project.

POTENTIAL TO INCREASE BREEDING HABITAT

The Project does not have the potential to increase CRLF breeding habitat. Weber Creek in the Project site does not provide CRLF breeding habitat under existing conditions. Weber Creek in the Project site does not contain the slow moving pools or backwater necessary for successful CRLF reproduction during the breeding season. During the breeding season, Weber Creek regularly experiences high flow rates that, based on published literature, are incompatible with CRLF breeding requirements. The pools that exist in Weber Creek in the Project area occur after the CRLF breeding season.

The Project does not propose to create slow moving pools or backwater in Weber Creek. This would require significant work and engineering of the channel bed in order to create pools that could provide CRLF breeding habitat. The hydrologic regime of Weber Creek would have to be altered in a way that would create more impacts than would occur under the existing Project design.

4.2.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Implementation of these avoidance and minimization efforts will ensure that no take of CRLF occurs as a result of the project:

- In-water construction activities will be restricted to the period between 15 April and 15 October, subject to the Streambed Alteration Agreement, or before the onset of the rainy season, whichever occurs first. The rainy season is defined as a frontal system that results in depositing 0.25 inch or more of precipitation during one event in the area.

- A toxic materials control and spill-response plan will be developed and implemented for the proposed project.

- Throughout project construction and implementation, hazardous materials will be stored at an approved storage facility located at least 100 ft from any surface waters. Refueling and vehicle maintenance will be performed at least 100 ft from receiving waters.

- Temporary orange construction barrier fencing (and sedimentation fencing in some cases) shall be installed around the construction areas.

- A Revegetation Planting and Erosion Control Specification Plan (Appendix G) and

Replanting Plan (Appendix I) to compensate for the unavoidable loss of vegetation along Weber Creek will be prepared and implemented. The plans will focus on replanting or enhancing riparian habitat along Weber Creek in the construction area. All native riparian trees in the white alder – Oregon ash riparian forest along Weber Creek will be replaced at a 2:1 ratio (2 trees planted for every 1 tree removed). Eighty riparian trees will be planted for the 40 removed. Thirty willow and white alder pole cuttings will be planted in the areas covered with rock slope protection below the OHWM of Weber Creek and under the new bridge. Ten canyon live oaks will be planted in the uplands along Weber Creek and CH 1. The success criteria for trees is 60 percent establishment after five years, or 72 trees.

- A biological resources education program will be conducted for construction crews before project implementation. The education program will include a brief review of special-status species that may occur in the project area (including life history, habitat requirements, and pictures of the species), the portions of the project area in which they may occur, and their legal status. The program will also cover the restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on these species during project implantation. The crew foreman will be responsible for ensuring that crew members adhere to the guidelines and restrictions. Education programs will be conducted for appropriate new personnel as they are brought on the job during the construction period. Restrictions and guidelines that must be followed by construction personnel are as follows:

    - Project-related vehicles shall observe the posted speed limit on hard-surfaced roads and a 10 mi-per-hour speed limit on unpaved roads during travel in the project area;
    - Project-related vehicles and construction equipment shall restrict off-road travel to the designated construction area;
    - All food-related trash shall be disposed of in closed containers and removed from the project area at least once each week during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the project area;
    - No pets or firearms shall be allowed in the project area;
    - No rodenticides or herbicides shall be applied in the project area during construction activities;

- To prevent possible resource damage from hazardous materials such as motor oil or gasoline, construction personnel shall not service vehicles or construction equipment outside of designated staging areas;
- Any worker who inadvertently injures or kills a CRLF or finds one dead, injured, or entrapped, shall immediately stop construction activities and report the incident to the biological monitor. The monitor shall immediately notify the Resident Engineer or the County construction inspector, who will provide verbal notification to USFWS endangered species office in Sacramento, California, and to the local DFG warden or biologist within 24 hours (in some cases, it may not be feasible to immediately halt construction activities, such as the pouring of concrete; however, the Resident Engineer/ County representative, biologist, and contractor shall assess the situation and adjust work to prevent further take and USFWS must be notified to explain the situation while work continues). El Dorado County shall follow up with written notification to USFWS and the DFG within 5 working days.

- A preconstruction survey for CRLF shall occur within 48 hours prior to the start of construction activities within the riparian and aquatic habitat in the BSA. In the event that a CRLF is observed during the preconstruction survey, USFWS will be notified and the CRLF will be monitored until it leaves the project site. An exclusion fence will be installed to prevent the movement of frogs back into the construction area. A qualified biologist will be present during grubbing and clearing activities in the riparian and aquatic habitat in the BSA. Grubbing and clearing of the brush and blackberry shrubs will be performed by hand or with hand tools. Mechanized vehicles will not be used to clear the brush. If a CRLF is observed during construction activities in the creek, activities will cease and USFWS will be notified. Construction activities will not commence until the CRLF leaves the project site and an exclusion fence is installed to prevent the movement of frogs back into the construction area. Relocation of CRLF will only take place by an individual permitted by USFWS to handle this species.

- A County construction inspector shall be on site to monitor all construction occurring in water within Weber Creek for compliance with the project's mitigation measures. A USFWS approved qualified biologist will be available during the construction period. The County construction inspector will assist the construction personnel, as needed, to comply with all project implementation restrictions and guidelines. Furthermore, 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.

- El Dorado County will implement best management practices (BMPs) to prevent impacts to water quality in Weber Creek.

MODIFICATIONS TO THE PROJECT TO MITIGATE EFFECTS

The Project design modifies the existing bridge abutment locations to create a wider, clearer span across Weber Creek.

4.2.1.3. PROJECT IMPACTS

The Project may affect is likely to adversely affect CRLF. The Project will have no effect on CRLF critical habitat.

4.2.1.4. COMPENSATORY MITIGATION

No off-site compensatory mitigation is proposed. The avoidance and minimization measures listed above provide for protection of CRLF during construction and revegetation of habitat after construction is completed.

4.2.1.5. CUMULATIVE EFFECTS

No cumulative effects were identified. This Project will not cause an increase in traffic or encourage changes to existing land use patterns.

4.2.2. Discussion of foothill yellow-legged frog (FYLF; *Rana boylii*)

This species occurs in woodland and forest areas near streams and rivers, especially near riffles where there are rocks (Stebbins 2003). Egg clusters are attached to gravel or rocks in moving water near stream margins and tadpoles require water for at least 3 or 4 months while completing their aquatic development (Zeiner et al. 1988). FYLF require permanent streams in which to reside (Verner and Boss 1980).

Bullfrogs have been implicated in the observed reduction of FYLF populations in the Sierra (Moyle 1973 *in* Zeiner et al. 1988). Centrachid fishes (sunfish) readily eat *Rana* eggs (Werschkul and Christensen 1977 *in* Zeiner et al. 1988), and, where introduced into foothill streams, may also contribute to the elimination of FYLF (Zeiner et al. 1988).

Range: Historically, this species was known from most Pacific drainages from the Santiam River system (Marion County, OR) to the San Gabriel River system (Los Angeles County, CA; Jennings and Hayes 1994). This species has not been observed south of the Transverse Ranges since 1970 (Jennings and Hayes 1994).

Known Records: The closest CNDDB record for FYLF is located approximately 8 mi north-

northwest of the BSA in Indian Creek, a tributary to the South Fork American River. Habitat consists of a perennial stream with intermittent pools. Over 100 adults and juveniles were observed on 27 October 2003.

4.2.2.1. SURVEY RESULTS

FYLF were not observed in the BSA during the general biological survey, the delineation fieldwork, the CRLF site assessment fieldwork, or during the CRLF protocol surveys. Based on the best scientific and commercial information available, FYLF does not currently occupy the BSA. Weber Creek in the BSA provides potential breeding and dispersal habitat for FYLF. FYLF has the potential to occur in the BSA in the future.

4.2.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

Avoidance and minimization measures described for CRLF in Section 4.2.1.2 will also protect FYLF. In addition, the following avoidance and minimization efforts will be implemented:

- A preconstruction survey for FYLF shall occur within 48 hours prior to the start of construction activities within the riparian and aquatic habitat in the BSA. A qualified biologist will be present during grubbing and clearing activities in the riparian and aquatic habitat in the BSA. If FYLF is observed in the construction area, construction will cease until a qualified biologist determines that construction activities will not result in harm to FYLF. Construction will not recommence until the biologist determines that FYLF is not in the construction zone.

- Temporary orange construction barrier fencing (and sedimentation fencing in some cases) shall be installed around the construction areas.

- El Dorado County will implement best management practices (BMPs) to prevent impacts to water quality in Weber Creek.

4.2.2.3. PROJECT IMPACTS

With implementation of the avoidance and minimization measures, the proposed Project will not affect FYLF.

4.2.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.2.2.5. CUMULATIVE EFFECTS

No cumulative effects were identified. This Project will not cause an increase in traffic or encourage changes to existing land use patterns.

4.2.3. Discussion of Northwestern pond turtle (NWPT; *Actinemys marmorata*)

NWPT prefer aquatic habitats with abundant vegetative cover and exposed basking sites such as logs. NWPT are associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams (Zeiner et al. 1988). They are omnivorous generalists and opportunistic predators whose prey includes small insects, aquatic invertebrates, fish, frogs, snakes, and small mammals. They also eat aquatic plant material and carrion (Stebbins 2003).

Two distinct habitats may be used for oviposition. Along large slow-moving streams, eggs are deposited in nests constructed in sandy banks. Along foothill streams, females may climb hillsides, sometimes traveling over 330 ft to find a suitable nest site. Soil must usually be at least 4 inches deep for nesting. Three to 11 eggs are laid from March to August depending on local conditions and are incubated for approximately 73 to 80 days (Zeiner et al. 1988).

Range: NWPT occur throughout northern CA west of the Sierra Nevada (Stebbins 2003).

Known Records: The closest CNDDB record for NWPT is located approximately 2.8 mi east of the BSA in a freshwater pond in Placerville. The pond in located in an oak/pine community and is surrounded by cattails, willows, blackberry vines, rushes, and native grasses. Three adults and two juveniles were observed in 2002.

4.2.3.1. SURVEY RESULTS

NWPT were not observed during surveys in the BSA. NWPT has the potential to occur in the BSA.

4.2.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

Avoidance and minimization efforts described for FYLF in Section 4.2.2.2 will also be applied for NWPT.

4.2.3.3. PROJECT IMPACTS

With implementation of the avoidance and minimization measures, the proposed Project will not affect NWPT.

4.2.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.2.3.5. CUMULATIVE EFFECTS

No cumulative effects were identified. This Project will not cause an increase in traffic or

encourage changes to existing land use patterns.

4.2.4. Migratory Birds and Birds of Prey Discussion

Fish and Game Code 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Birds of prey include raptors, falcons, and owls. Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA. The MBTA applies to construction activities and construction-related disturbance.

4.2.4.1. SURVEY RESULTS

Birds protected by the MBTA observed during field surveys include American robin, Anna's hummingbird, black phoebe, and spotted towhee. Foraging and nesting habitat occurs in the BSA for birds of prey and migratory birds. Although no nests were observed during surveys, a nest could become established in or near the BSA before construction begins.

4.2.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. Construction is scheduled to occur between 15 April and 15 October, which overlaps the nesting season of many birds. The nesting season is generally 1 February through 31 August. Preconstruction nest surveys will be conducted. Implementation of the following avoidance and minimization measures will avoid potential impacts.

Swallows

Although no cliff swallows were observed in the BSA during surveys, nests could become established on the bridge before construction begins. Cliff swallows arrive in mid-February, increase in numbers until late March, and remain until October. Nesting begins in April, peaks in June, and continues into August. Measures shall be taken to prevent establishment of cliff swallow nests prior to construction. Techniques to prevent nest establishment include the following:

- The contractor can visit the site weekly and remove partially completed nests using either hand tools or high pressure water; or
- Hang netting from the bridge before nesting begins. If this technique is used, netting

should be in place from late February until bridge demolition occurs.

Birds of Prey and Birds Protected by the Migratory Bird Treaty Act

If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests.

- If construction is scheduled to begin between 1 February and 31 August then a qualified biologist shall conduct a preconstruction survey for active nests at the construction site and within 250 ft of the construction site from publicly accessible areas within one week prior to construction. If no active nest of a bird of prey or MBTA bird is found, then no further mitigation measures are necessary.

- If an active nest of a bird of prey or MBTA bird is found, then the biologist shall flag a minimum 250-foot Environmentally Sensitive Area (ESA) around the nest if the nest is of a bird of prey, and a minimum 100-foot ESA around the nest if the nest is of an MBTA bird other than a bird of prey.

- No construction activity shall be allowed in the buffer until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest.

- The buffer may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring. The size of suitable buffers depends on the species of bird, the location of the nest relative to the project, project activities during the time the nest is active, and other project specific conditions.

- Between 1 February and 31 August, if additional trees or shrubs need to be trimmed and/or removed after construction has started, a survey will be conducted for active nests in the area to be affected. If an active nest is found, the above measures will be implemented.

- If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing disturbance to the nest.

4.2.4.3. PROJECT IMPACTS

Removal or abandonment of an active nest due to construction would be considered a

significant impact. As a precautionary measure, preconstruction surveys will be conducted for raptor and migratory bird nests.

4.2.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is required for birds of prey and migratory birds.

4.2.4.5. CUMULATIVE EFFECTS

No cumulative effects were identified. This Project will not cause an increase in traffic or encourage changes to existing land use patterns.

4.3. Special-Status Plant Species

4.3.1. Discussion of Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*)

Brandegee's clarkia is an annual herb found in chaparral and cismontane woodland, often on roadcuts, from 960 to 2,900 ft. Blooms May through July (CNPS 2008).

Range: Known from Butte, El Dorado, Nevada, Placer, Sierra, and Yuba counties (CNPS 2008).

Known Records: The closest CNDDB record for Brandegee's clarkia is from 1947 and is located approximately 4.7 mi north-northwest of the BSA along Highway 49.

4.3.1.1. SURVEY RESULTS

Brandegee's clarkia was not observed in the BSA during surveys conducted during the evident and identifiable period. Brandegee's clarkia is not known to occur in the BSA.

4.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are required.

4.3.1.3. PROJECT IMPACTS

The Project will not affect individuals of this species.

4.3.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.3.1.5. CUMULATIVE EFFECTS

No cumulative effects were identified. This Project will not cause an increase in traffic or encourage changes to existing land use patterns.

4.3.2. Discussion of Parry's horkelia (*Horkelia parryi*)

Parry's horkelia is a perennial herb found in chaparral and cismontane woodland, especially of the Ione formation, from 260 to 3,400 ft. Blooms April through September (CNPS 2008).

Range: Known from Amador, Calaveras, El Dorado, and Mariposa counties (CNPS 2008).

Known Records: The closest CNDDB record for Parry's horkelia is from 1923 and is located approximately 1.6 mi east of the BSA. There are no newer records for this plant from the Placerville area.

4.3.2.1. SURVEY RESULTS

Parry's horkelia was not observed in the BSA during surveys conducted during the evident and identifiable period. Parry's horkelia is not known to occur in the BSA. The BSA provides only marginal habitat due to the lack of Ione formation soils.

4.3.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are required.

4.3.2.3. PROJECT IMPACTS

The Project will not affect individuals of this species.

4.3.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.3.2.5. CUMULATIVE EFFECTS

No cumulative effects were identified. This Project will not cause an increase in traffic or encourage changes to existing land use patterns.

4.3.3. Discussion of Oval-leaved viburnum (*Viburnum ellipticum*)

Oval-leaved viburnum is a deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 700 to 4,600 ft. Blooms May through June (CNPS 2008).

Range: Known from Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, and Sonoma counties (CNPS 2008).

Known Records: The closest CNDDB record for oval-leaved viburnum is from 1901 and is located approximately 1.6 mi east of the BSA. There are no newer records for this plant from the Placerville area.

4.3.3.1. SURVEY RESULTS

Oval-leaved viburnum was not observed in the BSA during surveys conducted during the evident and identifiable period. Oval-leaved viburnum is not known to occur in the BSA.

4.3.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance or minimization efforts are required.

4.3.3.3. PROJECT IMPACTS

The Project will not affect individuals of this species.

4.3.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.3.3.5. CUMULATIVE EFFECTS

No cumulative effects were identified. This Project will not cause an increase in traffic or encourage changes to existing land use patterns.

Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions

5.1. Federal Endangered Species Act (FESA) Consultation Summary

FESA defines "take" (section 9) and prohibits "taking" of a listed endangered or threatened animal (16 U.S.C. 1532, 50 CFR 17.3). If a federal-listed animal could be harmed by a project, then section 7 or 10 consultations must be initiated and an Incidental Take Permit must be obtained (16 U.S.C. 1539, 50 CFR 13).

Section 7 of FESA states that all federal departments and agencies shall, in consultation with and with the assistance of the Secretary of the Interior/Commerce, insure that any actions authorized, funded, or carried out by them do not jeopardize the continued existence of federal-listed or proposed species or result in adverse modification of designated critical habitat, unless an exception has been granted by the Endangered Species Committee (16 USC 1536(a)(2)).

Section 9(a)(1) of FESA and federal regulation pursuant to section 4(d) of FESA prohibit the take of endangered and threatened fish and wildlife species. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.

Harass is defined by USFWS as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

Harm is defined by USFWS to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering.

Based on the following criteria, a Biological Assessment evaluates the potential effects of an action on federal-listed species or critical habitat to determine whether or not the species or its habitat is likely to be adversely affected by the action (USFWS & NMFS 1998):

1. Based on the best available scientific and commercial data, is the species: a) likely to be found in the area; b) potentially found in the area; or c) unlikely to be found in the area.

2. If a species is unlikely to occur in or migrate through the BSA due to lack of suitable habitat or the BSA is outside of the known range of the species, it was determined that the project would have no effect on the species.

3. If it is reasonably foreseeable for a species to occur in the BSA, further analysis of the species' life history and habitat requirements, and the suitability of habitat for any life stage of the species, was made.

4. If suitable habitat for a species was determined to occur in the BSA, an analysis of the potential effects to the species was conducted. Details of life history and habitat requirements for potentially affected species were evaluated to ascertain the likelihood and severity of impact. Technical assistance was requested from resource agencies regarding the likelihood and timing of occurrence for species.

5. A determination was then made of the type of effect in accordance with terminology used by USFWS (USFWS & NMFS 1998) for listed species and/or designated critical habitat pursuant to FESA. The types of determinations based on USFWS terminology are listed in Table 8. A summary of FESA consultations for the Project are in Table 9.

6. If a conclusion was reached that the project "may affect" a federal-listed species, reasonable and prudent mitigation measures were developed to ensure that "take" would not occur or if "take" was anticipated, it would be minimized.

Table 8. Types of Federal Consultation Determinations

Determination	Course of Action
No effect	No incidental take will occur. No incidental take statement is required. No consultation with USFWS is required.
May affect, is not likely to adversely affect	No incidental take will occur. USFWS may concur in writing during informal consultation.
May affect, is likely to adversely affect	Incidental take is anticipated to occur. A formal section 7 consultation is required to obtain an Incidental Take Statement. During consultation, USFWS will make the determination that the project is or is not likely to jeopardize the continued existence of the species or adversely modify critical habitat.
Is likely to jeopardize the continued existence of the species or adversely modify critical habitat	If the project is likely to jeopardize the continued existence of the species or adversely modify critical habitat, conference with the Secretary of the Department of Interior is required.

Table 9 summarizes potential Project effects on federal-listed special-status species. The Project is likely to adversely affect CRLF and will not adversely modify critical habitat.

Table 9. Summary of FESA Consultation Requirement

Scientific Name	Common Name	Status	No Effect	May affect, is not likely to adversely affect	May affect, is likely to adversely affect
Amphibians					
Rana draytonii	California red-legged frog	FT			X
Rana draytonii	California red-legged frog Critical Habitat	FCH	X		

5.2. California Endangered Species Act (CESA) Consultation Summary

No take of California state-listed species will occur as a result of this Project.

5.3. Wetlands and Other Waters Coordination Summary

5.3.1.1. SURVEY RESULTS

A jurisdictional delineation was prepared for the BSA (Appendix F). Weber Creek and CH 1

are potential jurisdictional waters of the U.S.

5.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

The Project will require permits from the Corps, DFG, and the RWQCB.

Graded areas will be revegetated and native riparian trees will be replanted in the BSA. A Revegetation and Erosion Control Specifications plan is in Appendix G and a Replanting Plan is in Appendix I.

5.3.1.3. PROJECT IMPACTS

RSP will be placed around the bridge abutments and wingwalls to stabilize the creek banks and cover the fill on top of the footing. The RSP may extend from the bed of the creek below the ordinary high water mark (OHWM) to the top of bank above the OHWM. Permanent fill below the ordinary high water mark (OHWM) will affect 0.091 ac. The Project will result in the temporary disturbance of 0.450 ac of Weber Creek below the OHWM. Temporary impacts will occur a) when water is diverted through the BSA, b) when the temporary creek crossing is constructed, c) when work occurs in the dewatered channel bed, and d) when vegetation is cleared.

The culverts in CH 1 under Green Valley Road will be extended to accommodate the widened road. Based on the preliminary design dated 4 May 2010, approximately 120 ft of CH 1 west of Green Valley Road, south of Karma Lane, will be realigned and placed in a rock-lined ditch. The realignment and placement of CH 1 in a rock-lined ditch will permanently impact the functions and values of CH 1, although CH 1 will still exist. During construction, the southern end of CH 1 will be temporarily diverted through a pipe at the temporary creek crossing. The construction of the new alignment of Green Valley Road will result in 0.020 ac of permanent impacts and 0.020 ac of temporary disturbance to the intermittent portion of CH 1. The ephemeral portion of CH 1 will not be impacted (Figure 3).

5.3.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed.

5.3.1.5. CUMULATIVE EFFECTS

With implementation of the revegetation measures, the Project will not result in cumulative effects to wetlands or waters of the U.S.

5.4. Evaluation of Invasive Plant Species (EO 13112)

Species rated as "High" by Cal-IPC (2006) relative to their ecological impact, invasive potential, and ecological distribution, that occur in the BSA are Himalayan blackberry, barbed goatgrass (*Aegilops triuncialis*), scotch broom (*Cytisus scoparius*), yellow star-thistle (*Centaurea solstitialis*) and English ivy (*Hedera helix*). Himalayan blackberry is a shrub that grows as a dense thicket. It spreads by seed and vegetatively by rooting of branch tips (Bossard et al. 2000). Scotch broom is a long-lived perennial shrub common in disturbed places. It spreads by seeds, which are dispersed by ants, animals, rain wash, and are transported in soil (Bossard et al. 2000). Barbed goatgrass is a short-lived annual bunchgrass that can form almost monotypic stands. It spreads by producing numerous small seeds (Cal-IPC 2006). Yellow star-thistle grows as a deep-taprooted winter annual. Human activities are the primary mechanisms for the long-distance movement of yellow star-thistle seed. Seed is transported by road maintenance equipment, on the undercarriage of vehicles, in contaminated hay, and in uncertified seed (Bossard et al. 2000). English ivy is a perennial, evergreen woody vine or shrub that climbs up tree trunks and along branches and into the canopy and may also cover the ground. English ivy spreads by seeds and vegetatively by adventitious rooting at the leaf nodes along the stem; it may also regenerate from stem fragments if they remain in contact with the soil (Bossard et al. 2000). Invasive plant species in the BSA categorized by Cal-IPC (2006) as moderate or limited are noted in Appendix C.

These species are common throughout El Dorado County. The limited scope of this Project precludes effective eradication of these invasive species from the BSA and the County. By revegetating disturbed creek banks and roadsides with native species, the Project will reduce the spread of these species in the BSA.

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Mr. Dwight Anderson, P.E., Associate Civil Engineer. Various 2007-2008. Phone conversations, email correspondence, and meetings. Associate Civil Engineer, El Dorado County Department of Transportation, Placerville, CA.

Mr. Jeremiah Karuzas. Various 2010. Field review, phone conversations, and email correspondence to discuss project impacts to CRLF. U.S. Fish and Wildlife Service, Sacramento, CA.

Ms. Jennifer Maxwell, P.E., Senior Civil Engineer. Various 2010. Phone conversations, email correspondence, and meetings. Senior Civil Engineer, El Dorado County Department of Transportation, Placerville, CA.

Ms. Suzanne Melim. Various 2010. Field review, phone conversations, and email correspondence to discuss project impacts to CRLF. Environmental Planner, California Department of Transportation District 3.

Ms. Janet Postlewait, Senior Planner. Various 2007-2008. Phone conversations, email correspondence, and meetings. Senior Planner, El Dorado County Department of Transportation, Placerville, CA.

Mr. Arnold Roessler. U.S. Fish and Wildlife Service, Sacramento, CA.

Dr. Pete Trenham. U.S. Fish and Wildlife Service, Sacramento, CA.

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Appendix A USFWS Letter

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

August 24, 2010

Document Number: 100824052309

R. John Little, Ph.D.
Sycamore Environmental Consultants, Inc.
6355 Riverside Blvd., Suite C
Sacramento, CA 95831

Subject: Species List for Green Valley Road Bridge (25C-0088) @ Weber Creek Replacement Project

Dear: Dr. Little

We are sending this official species list in response to your August 24, 2010 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be November 22, 2010.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 100824052309

Database Last Updated: April 29, 2010

Quad Lists

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
California red-legged frog (T)

Plants

Senecio layneae
Layne's butterweed (=ragwort) (T)

Quads Containing Listed, Proposed or Candidate Species:

PLACERVILLE (510A)

County Lists

El Dorado County

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Ceanothus roderickii
Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Senecio layneae
Layne's butterweed (=ragwort) (T)

Proposed Species

Amphibians

Rana draytonii
Critical habitat, California red-legged frog (PX)

Candidate Species

Amphibians

Bufo canorus
Yosemite toad (C)

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

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

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

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

Plants

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

Surveying

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

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

Your Responsibilities Under the Endangered Species Act

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

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

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

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

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

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

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

Critical Habitat

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

cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

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

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

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

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

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be November 22, 2010.

Appendix B California Natural Diversity Database (CNDDB)/ RareFind Summary

Location Summary Report for Placerville Quadrangle and Eight Adjacent Quadrangles

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California Department of Fish and Game
Natural Diversity Database
CNDDB List for Placerville and 8 Adjacent Quads

	Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1	***Accipiter gentilis***	northern goshawk	ABNKC12060			G5	S3		SC
2	***Actinemys marmorata***	western pond turtle	ARAAD02030			G3G4	S3		SC
3	***Agelaius tricolor***	tricolored blackbird	ABPBXB0020			G2G3	S2		SC
4	***Allium jepsonii***	Jepson's onion	PMLIL022V0			G1	S1.2	1B.2	
5	***Arctostaphylos nissenana***	Nissenan manzanita	PDERI040V0			G2	S2.2	1B.2	
6	***Ardea alba***	great egret	ABNGA04040			G5	S4		
7	***Calochortus clavatus var. avius***	Pleasant Valley mariposa-lily	PMLIL0D095			G4T3	S3	1B.2	
8	***Calystegia stebbinsii***	Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1.1	1B.1	
9	***Ceanothus roderickii***	Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G2	S2.1	1B.2	
10	***Central Valley Drainage Hardhead/Squawfish Stream***	Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA			G?	SNR		
11	***Central Valley Drainage Resident Rainbow Trout Stream***	Central Valley Drainage Resident Rainbow Trout Stream	CARA2421CA			G?	SNR		
12	***Chlorogalum grandiflorum***	Red Hills soaproot	PMLIL0G020			G2	S2	1B.2	
13	***Clarkia biloba ssp. australis***	Mariposa clarkia	PDONA05051			G4G5T2	S2.2	1B.2	
14	***Clarkia biloba ssp. brandegeeae***	Brandegee's clarkia	PDONA05053			G4G5T3	S3	1B.2	
15	***Cosumnoperla hypocrena***	Cosumnes spring stonefly	IIPLE23020			G1	S1		
16	***Fremontodendron decumbens***	Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1.2	1B.2	
17	***Galium californicum ssp. sierrae***	El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1.2	1B.2	
18	***Helianthemum suffrutescens***	Bisbee Peak rush-rose	PDCIS020F0			G2Q	S2.2	3.2	
19	***Horkelia parryi***	Parry's horkelia	PDROS0W0C0			G2	S2.2	1B.2	
20	***Lasionycteris noctivagans***	silver-haired bat	AMACC02010			G5	S3S4		
21	***Martes pennanti (pacifica) DPS***	Pacific fisher	AMAJF01021	Candidate	unknown code...	G5	S2S3		SC
22	***Myotis yumanensis***	Yuma myotis	AMACC01020			G5	S4?		
23	***Packera layneae***	Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2.1	1B.2	
24	***Phrynosoma blainvillii***	coast horned lizard	ARACF12100			G4G5	S3S4		SC
25	***Rana boylii***	foothill yellow-legged frog	AAABH01050			G3	S2S3		SC
26	***Sacramento-San Joaquin Foothill/Valley Ephemeral Stream***	Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	CARA2130CA			G?	SNR		
27	***Strix nebulosa***	great gray owl	ABNSB12040		Endangered	G5	S1		
28	***Viburnum ellipticum***	oval-leaved viburnum	PDCPR07080			G5	S2.3	2.3	
29	***Wyethia reticulata***	El Dorado County mule ears	PDAST9X0D0			G2	S2.2	1B.2	

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Appendix C Plant and Wildlife Species Observed

Plant Species Observed

Family	Scientific Name	Common Name	N/ I*	CAL-IPC PEST RATING**
FERNS & ALLIES				
Dryopteridaceae	*Cystopteris* sp.		N	
	Dryopteris arguta	Wood fern	N	
Equisetaceae	*Equisetum arvense*	Common horsetail	N	
Polypodiaceae	*Polypodium calirhiza*	Polypody	N	
Pteridaceae	*Pentagramma triangularis*	Goldback fern	N	
CONIFERS				
Cupressaceae	*Calocedrus decurrens* [1]	Incense cedar	N	
Pinaceae	*Pinus ponderosa*	Pacific ponderosa pine	N	
	Pinus sabiniana	Foothill pine	N	
	Pseudotsuga menziesii	Douglas fir	N	
DICOTS				
Aceraceae	*Acer macrophyllum*	Big-leaf maple	N	
Anacardiaceae	*Toxicodendron diversilobum*	Western poison oak	N	
Apiaceae	*Osmorhiza brachypoda*		N	
	Sanicula crassicaulis	Sanicle	N	
	Tauschia hartwegii		N	
	Torilis arvensis		I	Moderate
Apocynaceae	*Vinca major*	Greater periwinkle	I	Moderate
Araliaceae	*Hedera helix*	English ivy	I	High
Aristolochiaceae	*Asarum hartwegii*	Wild ginger	N	
Asteraceae	*Achillea millefolium*	Yarrow	N	
	Agoseris grandiflora		N	
	Artemisia douglasiana	Mugwort	N	
	Baccharis pilularis	Coyote brush	N	
	Bidens sp.		--	
	Carduus pycnocephalus	Italian thistle	I	Moderate
	Centaurea solstitialis	Yellow star-thistle	I	High
	Chondrilla juncea	Skeleton weed	I	Moderate
	Lactuca saligna	Lettuce	I	
	Lactuca serriola	Prickly lettuce	I	
	Lapsana communis	Nipplewort	I	
	Madia subspicata		N	
	Wyethia helenioides	Mules ears	N	
Betulaceae	*Alnus rhombifolia*	White alder	N	
Boraginaceae	*Cynoglossum grande*	Hound's tongue	N	
Brassicaceae	*Brassica nigra*	Black mustard	I	Moderate
	Cardamine oligosperma	Bitter cress	N	
	Rorippa curvisiliqua		N	
Caprifoliaceae	*Lonicera* sp.		N	
	Symphoricarpos sp.		N	
Caryophyllaceae	*Silene bridgesii*	Catchfly	N	
	Stellaria media	Common chickweed	I	
Crassulaceae	*Parvisedum congdonii*		N	
Ericaceae	*Arbutus menziesii*	Pacific madrone	N	
	Arctostaphylos viscida ssp. *viscida*	Manzanita	N	
Euphorbiaceae	*Eremocarpus setigerus*	Dove weed; Turkey mullein	N	
Fabaceae	*Cytisus scoparius*	Scotch broom	I	High
	Lathyrus sp.	Wild pea	--	
	Lupinus nanus	Lupine	N	
	Medicago lupulina	Black medick	I	

	Medicago polymorpha	California burclover	I	Limited
	Melilotus sp.	Sweetclover	I	
	Trifolium dubium	Little hop clover	I	
	Trifolium hirtum	Rose clover	I	Moderate
	Trifolium subterraneum	Subterranean clover	I	
	Vicia villosa ssp. *villosa*	Hairy vetch	I	
Fagaceae	*Quercus berberidifolia*	Scrub oak	N	
	Quercus chrysolepis	Canyon live oak	N	
	Quercus douglasii	Blue oak	N	
	Quercus x *morehus*	Oracle oak	N	
	Quercus kelloggii	California black oak	N	
	Quercus wislizenii var. *wislizenii*	Interior live oak	N	
Geraniaceae	*Erodium cicutarium*	Filaree	I	Limited
	Geranium dissectum	Cranesbill	I	Moderate
	Geranium molle	Cranesbill	I	
	Geranium sp.	Cranesbill	--	
Grossulariaceae	*Ribes* sp.		N	
Hippocastanaceae	*Aesculus californica*	California buckeye	N	
Hypericaceae	*Hypericum perforatum*	Klamathweed	I	Moderate
Juglandaceae	*Juglans californica* var. *hindsii*	N. California black walnut	N	
Lamiaceae	*Mentha* sp.		--	
	Monardella sp.		N	
Malvaceae	*Sidalcea malviflora*		N	
Oleaceae	*Fraxinus latifolia*	Oregon ash	N	
Onagraceae	*Clarkia biloba* ssp. *biloba*		N	
	Clarkia unguiculata		N	
	Epilobium brachycarpum	Fireweed	N	
	Epilobium ciliatum	Fireweed	N	
Oxalidaceae	*Oxalis corniculata*		I	
Papaveraceae	*Eschscholzia californica*	California poppy	N	
Plantaginaceae	*Plantago lanceolata*	English plantain	I	Limited
Polygalaceae	*Polygala cornuta* var. *cornuta*	Milkwort	N	
Polygonaceae	*Polygonum arenastrum*	Common knotweed	I	
	Rumex conglomeratus	Dock	I	
	Rumex crispus	Curly dock	I	Limited
Portulacaceae	*Claytonia perfoliata* ssp. *perfoliata*	Miner's lettuce	N	
Primulaceae	*Anagallis arvensis*	Scarlet pimpernel	I	
Ranunculaceae	*Ranunculus* sp.		N	
Rhamnaceae	*Ceanothus cuneatus* var. *cuneatus*	Buck brush	N	
	Rhamnus ilicifolia	Holly-leaved redberry	N	
Rosaceae	*Cercocarpus* sp.			
	Chamaebatia foliolosa	Mountain misery	N	
	Heteromeles arbutifolia	Toyon	N	
	Potentilla glandulosa ssp. *glandulosa*	Cinquefoil	N	
	Prunus sp.	Fruit	--	
	Rosa californica	California rose	N	
	Rubus discolor	Himalayan blackberry	I	High
	Rubus laciniatus	Cut-leaved blackberry	I	
	Rubus ursinus	California blackberry	N	
Rubiaceae	*Galium aparine*	Goose grass	N	
	Galium parisiense	Wall bedstraw	I	
	Galium sp.	bedstraw	--	
Salicaceae	*Salix* sp.		N	
Saxifragaceae	*Heuchera micrantha*	Alumroot	N	
Scrophulariaceae	*Collinsia heterophylla*	Chinese houses	N	

	Collinsia tinctoria		N	
	Kickxia sp.	Fluellin	I	
	Mimulus guttatus	Yellow monkeyflower	N	
	Verbascum thapsus	Woolly mullein	I	Limited
	Veronica sp.		--	
Styracaceae	*Styrax officinalis*	Snowdrop bush	N	
Vitaceae	*Vitis californica*	California wild grape	N	
MONOCOTS				
Cyperaceae	*Carex praegracilis*	Slender sedge	N	
	Cyperus eragrostis	Umbrella sedge	N	
	Eleocharis pachycarpa	Spikerush	I	
Iridaceae	*Iris pseudacorus*	Iris	I	
Juncaceae	*Luzula comosa*	Hairy wood rush	N	
Liliaceae	*Calochortus albus*	White globe lily	N	
	Chlorogalum pomeridianum		N	
Poaceae	*Aegilops triuncialis*	Barbed goatgrass	I	High
	Aira caryophyllea	Silver European hairgrass	I	
	Agrostis pallens	Bent grass	N	
	Avena fatua	Wild oat	I	Moderate
	Bromus hordeaceus	Soft brome	I	Limited
	Bromus laevipes		N	
	Bromus sterilis	Poverty brome	I	
	Cynosurus echinatus	Hedgehog dogtail	I	Moderate
	Dactylis glomerata	Orchard grass	I	Limited
	Elymus glaucus	Blue wildrye	N	
	Festuca arundinacea	Tall fescue	I	Moderate
	Festuca pratensis	Meadow fescue	I	
	Holcus lanatus	Common velvet grass	I	Moderate
	Hordeum murinum ssp. *leporinum*	Foxtail	I	Moderate
	Leersia oryzoides	Rice cutgrass	N	
	Lolium multiflorum	Italian ryegrass	I	Moderate
	Melica torreyana	Melic	N	
	Poa annua	Annual bluegrass	I	
	Vulpia myuros	Vulpia	I	Moderate

*N = Native; I = Introduced

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

Wildlife Species Observed

Common Name	Scientific Name
BIRDS	
American robin	*Turdus migratorius*
Anna's hummingbird	*Calypte anna*
Black phoebe	*Sayornis nigricans*
Spotted towhee	*Pipilo maculatus*
AMPHIBIANS	
Bullfrog	*Rana catesbeiana*
REPTILES	
Northern alligator lizard	*Gerrhonotus coeruleus*
MAMMALS	
Mule deer/Black – tailed Deer	*Odocoileus hemionus*
Western gray squirrel	*Sciurus griseus*

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Appendix D Photographs

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Photo 1. View looking north along Green Valley Road Bridge from Lode Road. 27 March 2008

Photo 2. View looking south along Green Valley Road Bridge. 6 June 2008

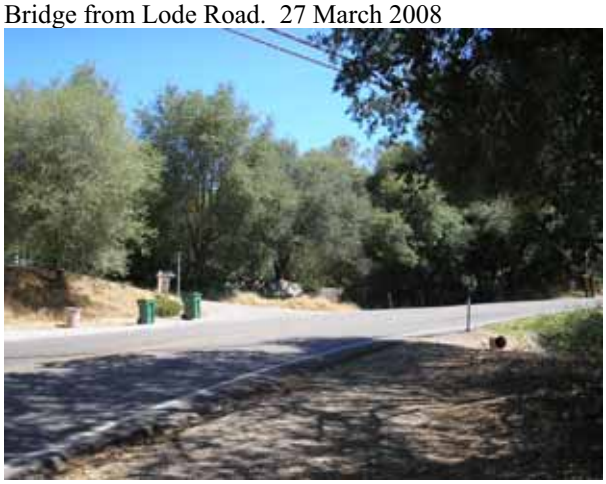

Photo 3. View of the northern end of the BSA. Canyon live oak forest occurs in the upland areas in the BSA. 6 June 2008

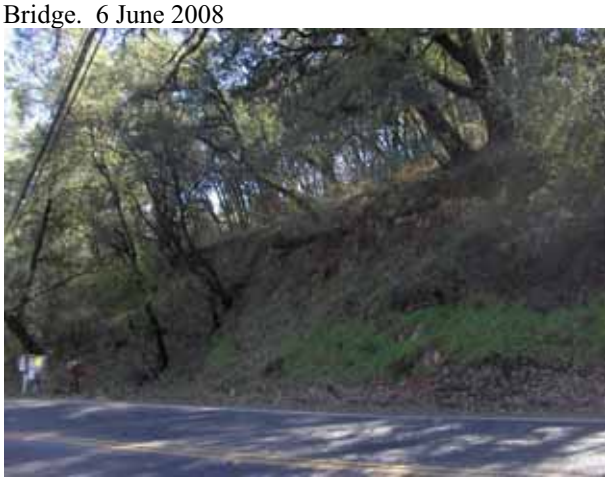

Photo 4. View of the canyon live oak forest along on the south side of Green Valley Road in the southwestern portion of the BSA. 27 March 2008

Photo 5. View looking east from the west side of Green Valley Road Bridge. 17 April 2008

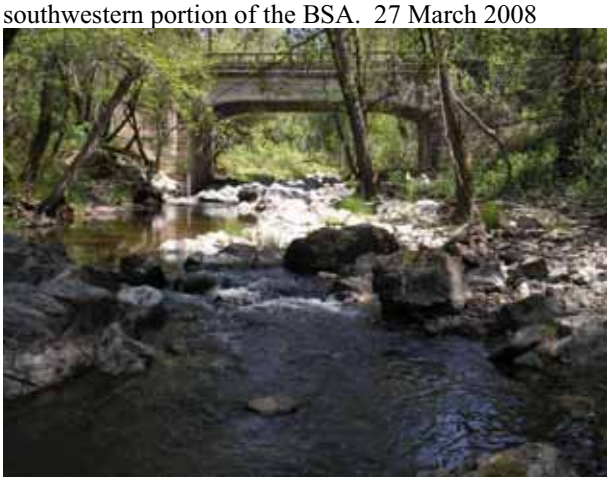

Photo 6. View looking east downstream of the Green Valley Road Bridge. 25 April 2008

Photo 7. View looking upstream from the east side of the Green Valley Road Bridge. The white alder-Oregon ash riparian community occurs on either side of Weber Creek. 25 April 2008

Photo 8. View looking downstream from the west side of the Green Valley Road Bridge. The white alder-Oregon ash riparian community occurs on either side of Weber Creek. 25 April 2008

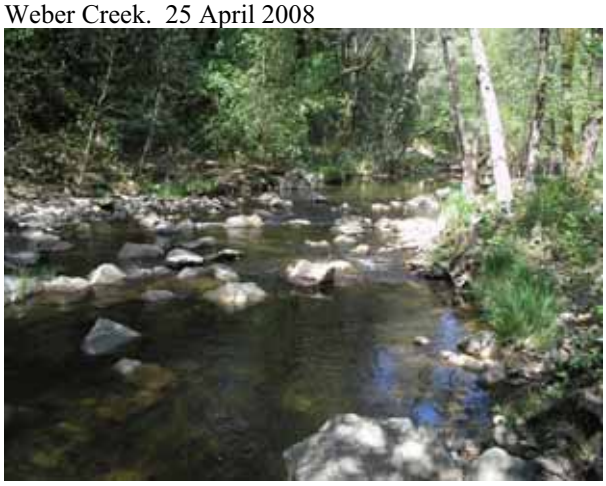

Photo 9. View looking downstream from the west side of the Green Valley Road Bridge. 17 April 2008

Photo 10. View looking upstream from the western end of the BSA. The riparian corridor along Weber Creek will be revegetated after the new bridge is complete. 17 April 2008

Photo 11. View of the intermittent portion of CH 1. The banks are densely vegetated with Himalayan blackberry and greater periwinkle. 6 June 2008

Photo 12. View of the intermittent portion of CH 1 in the BSA. The pink flags mark the center line of the channel. 6 June 2008

Photo 13. View looking north from the southwest corner of the bridge, toward the bank on the northwest side of the bridge. The bank will be revegetated after the bridge and abutments are removed.

Photo 14. View looking south from the northeast corner of the bridge. The bank will be revegetated after the bridge and abutments are removed.

Photo 15. View looking south from the northwest corner of the bridge, toward the bank on the southwest side of the bridge. The bank will be revegetated after the bridge and abutments are removed.

Photo 16. View looking south from the northeast corner of the bridge, toward the bank on the southeast side of the bridge. The bank will be revegetated after the bridge and abutments are removed.

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Appendix E Site Assessment and Field Survey Report for California Red-Legged Frog

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Site Assessment and Field Survey Report
for
California Red-legged Frog

Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project

El Dorado County, CA.

Prepared by:

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15 April 2009

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Site Assessment and Field Survey Report for California Red-legged frog:

Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project

El Dorado County, CA

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I. INTRODUCTION

Sycamore Environmental Consultants, Inc., under contract to El Dorado County Department of Transportation (DOT), completed a site assessment and protocol field surveys for California red-legged frog (CRLF; *Rana aurora draytonii*), a federal-listed threatened species, for the Green Valley Road Bridge (25C-0088) at Weber Creek project study area (PSA). The site assessment and protocol field surveys were conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) guidelines (USFWS 2005). This report evaluates the potential for CRLF to occur in the PSA and reports the results of CRLF focused field surveys.

A Natural Environment Study, Biological Assessment, and a preliminary jurisdictional delineation report were prepared for the Project and are documented in separate reports (Sycamore Environmental 2009a, b, and c).

II. PROJECT LOCATION & DESCRIPTION

The western edge of the approximately 7.2-ac PSA is located along Green Valley Road approximately 0.2 mi east of the intersection with El Dorado Road. The eastern edge of the PSA is located along Green Valley Road approximately 0.06 mi east of the intersection with Oak Knoll Road. The PSA is located on the Placerville USGS topographic quadrangle (T10N, R10E, section 14). Elevation in the PSA ranges from approximately 1,455 to 1,580 ft above sea level. The PSA is in the South Fork American hydrologic unit (hydrologic unit code 18020129) and its centroid is 38.7224º north, -120.8457º west, UTM coordinate 687,300 meters E, 4,288,200 meters N, Zone 10N (1983 NAD). Rural residential development occurs adjacent to the PSA boundaries.

III. HABITAT REQUIREMENTS

CRLF habitat includes specific aquatic and riparian components (USFWS 1996). Breeding adults typically require dense, shrubby, or emergent riparian vegetation closely associated with deep (>2 ft), still, or slowly moving water (USFWS 2002). Deep-water pools with dense stands of overhanging willows intermixed with cattails support the highest densities of CRLF (USFWS 1996). 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 breed from November through April (Storer 1925 *in* USFWS 2002). Typically most adult CRLF lay their eggs in March. The eggs require approximately 20 to 22 days to develop into tadpoles, and tadpoles require 11 to 20 weeks to develop into terrestrial frogs (Bobzien et. al. 2000, Storer 1925, Wright and Wright 1949 *in* USFWS 2002). CRLF require water to breed. Female CRLF deposit egg masses on emergent vegetation so that the masses float on the surface of the water. 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 (USFWS 2002). Artificial impoundments, such as stock ponds, that have a vegetative cover, and few nonnative predators may be used by CRLF for breeding (USFWS 2002). 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 (USFWS 2002). During periods of high water flow, CRLF are rarely observed (Sweet, pers. comm. *in* Jennings and Hayes 1994).

During summer, CRLF often disperse upstream or downstream from their breeding habitat to forage and seek aestivation habitat if water is not available (USFWS 1996). Aestivation habitat is essential for the survival of CRLF within a watershed (USFWS 1996). During dry periods, CRLF are rarely encountered far from water. Summer habitat could include spaces under boulders or rocks and organic debris, such as downed trees or logs; or industrial debris, such as drains and watering troughs (USFWS 2002). CRLF use small mammal burrows and moist leaf litter to aestivate during the summer if water is not available (USFWS 1996). CRLF also use large cracks in the bottom of dried ponds as refugia (USFWS 2002). CRLF are frequently encountered in open grasslands occupying seeps and springs. Such bodies may not be suitable for breeding but may function as foraging habitat or refugia for wandering frogs (USFWS 2005). Dispersal distances are considered to be dependent on habitat availability and environmental conditions (Scott and Rathbun *in litt.* 1998 *in* USFWS 2002).

Introduced bullfrogs (*Rana catesbeiana*), crayfish (*Procambarus* sp.), and various fish species have been a significant factor in the decline of CRLF (USFWS 2002). Introduced aquatic vertebrates and invertebrates are predators on one or more life stages of CRLF, including bullfrogs, crayfish, and various species of fishes, especially bass, catfish (*Ictalurus* spp.), sunfish (*Lepomis* spp.), and mosquitofish (*Gambusia affinis*) (Hayes and Jennings 1986 *in* USFWS 2002). The combined effects of both nonnative frogs and nonnative fish often lead to extirpation of CRLF (Kiesecker and Blaustein 1998 and Lawler et al. 2000 *in* USFWS 2002).

IV. METHODS

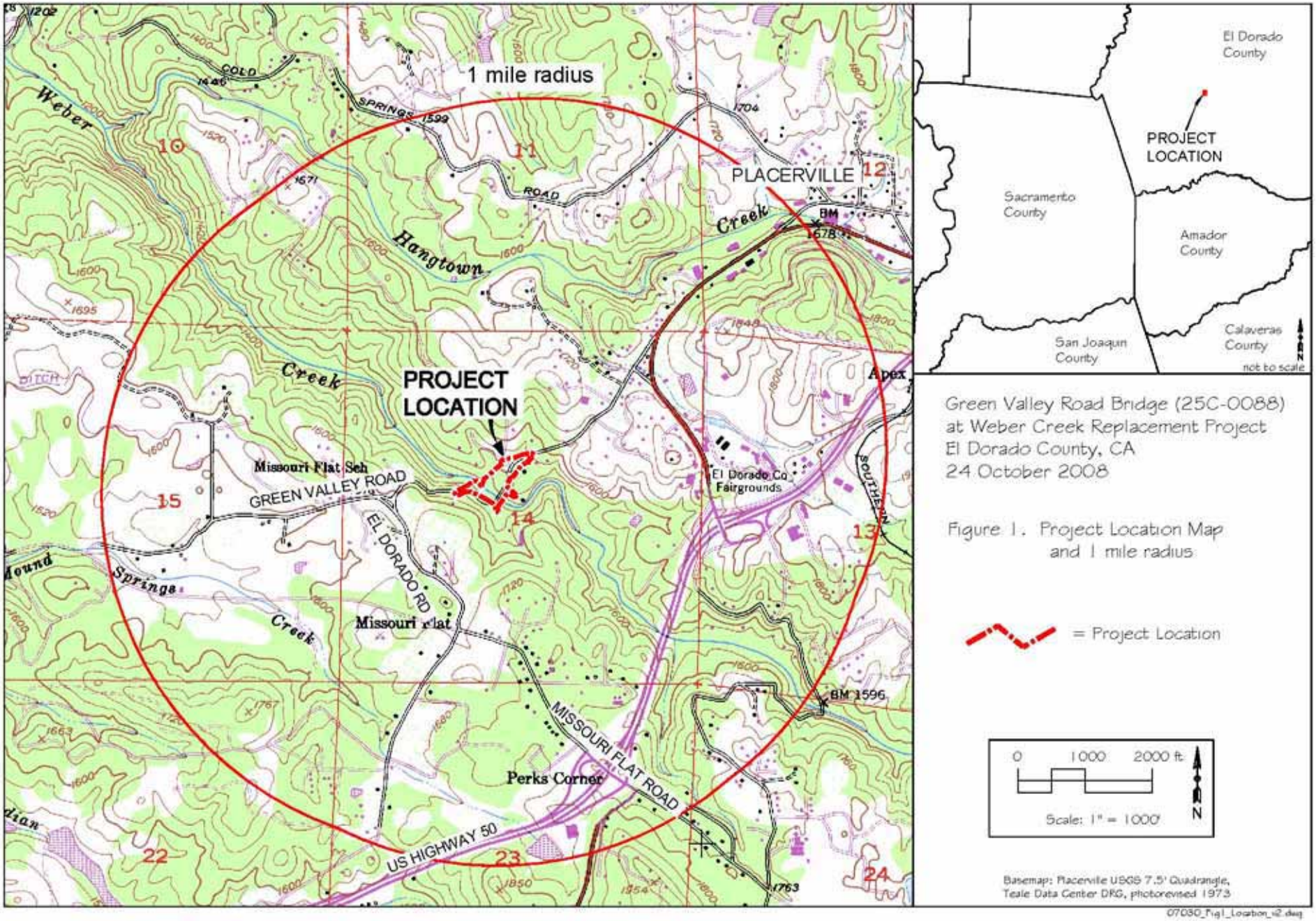
A. Site Assessment

Sycamore Environmental biologists conducted a site assessment to evaluate and identify potential CRLF habitat in and within one mile of the PSA in accordance with USFWS guidelines (USFWS 2005; Figure 1). The site assessment consisted of a literature search and a field survey. Habitat requirements for CRLF are described briefly above and in detail in the "Recovery Plan for the California Red-legged Frog" (USFWS 2002) and in the "Determination of Threatened Status for the California Red-legged Frog" (USFWS 1996; FR 61:25813-33).

The USFWS guidelines recommend that the following questions be answered when assessing habitat for CRLF in the vicinity of a project site:

- Is the project site within the current or historic range of CRLF?
- Are there known records of CRLF at the site or within a one mile radius of the site?
- What are the habitats within the project site and within one mile of the project boundary?

The literature search included reviewing the Placerville USGS topographic quad map, National Wetlands Inventory (NWI) map, and aerial photographs to obtain information on habitat within one mile of the PSA. The *California Wildlife: Amphibians and Reptiles* (Zeiner et al. 1988) and *Amphibian and Reptile Species of Special Concern in California* (Jennings and Hayes 1994), and the Recovery Plan for the California Red-legged Frog (USFWS 2002) were reviewed to determine if the PSA is within the historic or current range of CRLF. A search of the California Natural Diversity Data Base (CNDDB, data dated 4 April 2009), California Academy of Sciences (2000), and the Museum of Vertebrate Zoology (2008) were reviewed to determine known occurrences of CRLF within 5 miles of the PSA.


1 mile radius
PROJECT LOCATION
PLACERVILLE
Hangtown Creek
Weber Creek
Missouri Flat Sch
GREEN VALLEY ROAD
EL DORADO RD
Missouri Flat
MISSOURI FLAT ROAD
US HIGHWAY 50
Perks Corner
Apex
El Dorado Co Fairgrounds
Mound Springs Creek
BM 1678
BM 1596
El Dorado County
Sacramento County
Amador County
San Joaquin County
Calaveras County
not to scale
Green Valley Road Bridge (25C-0088)
at Weber Creek Replacement Project
El Dorado County, CA
24 October 2008
Figure 1. Project Location Map
and 1 mile radius
= Project Location
0 1000 2000 ft
Scale: 1" = 1000'
N
Basemap: Placerville USGS 7.5' Quadrangle,
Teale Data Center DRG, photorevised 1973
07030_Fig1_Location_v2.dwg

11-1188.F.124

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A field survey of the PSA was conducted to evaluate and identify potential CRLF habitat. Weber Creek was surveyed 50 ft upstream and 300 ft downstream of the bridge. No potential CRLF breeding habitat within one mile of the PSA was publicly accessible. The field survey consisted of walking through the PSA and recording information on upland and aquatic habitats. A CRLF habitat site assessment data sheet was completed for Weber Creek in the PSA (Appendix A). Information regarding inaccessible aquatic habitats, e.g. private ponds, was derived from the NWI map and the Placerville quad. Sycamore Environmental biologists Jessica Easley and Leane Scott conducted the Site Assessment on 17 April 2008.

B. Field Surveys

Protocol field surveys were conducted in accordance with USFWS guidelines (August 2005) to determine the presence or absence of CRLF in the PSA. Protocol field surveys focused on suitable habitat in the PSA that were identified during the Site Assessment. Weber Creek at the Green Valley Road Bridge was the only accessible site that may provide habitat for CRLF. No additional CRLF aquatic breeding habitat within one mile of the PSA was publicly accessible.

Ms. Easley, Ms. Scott, and Christina Owens, M.A., conducted the protocol CRLF breeding season field surveys. Daytime breeding season surveys were conducted on 17 and 25 April 2008. Nighttime breeding season surveys were conducted on 18 and 25 April and 6 and 13 May 2008. Ms. Easley and Ms. Scott conducted the day and night protocol non-breeding season surveys on 17 July 2008.

During the field surveys, shoreline and bank habitat were inspected at close range while walking in and along the aquatic habitat searching for CRLF. During nighttime surveys, biologists used 5 or 6 D-cell MAG-LITE® flashlights. During all surveys, air temperature and wind velocities were recorded. Water temperature was measured with a thermometer. Weber Creek was not accessed on foot for visual inspection during four breeding season night surveys due to safety concerns over the steep banks and the high water and swift spring time flows. During these surveys, Sycamore Environmental biologists positioned themselves as close as possible to the aquatic habitat and listened for CRLF vocalizations.

C. Aquatic Habitats in the PSA

Weber Creek was identified as potential CRLF aquatic habitat in the PSA during the site assessment. An unnamed channel (CH 1) that is tributary to Weber Creek also occurs in the PSA. CH 1 is partially ephemeral and partially intermittent within the PSA. The ephemeral portion of CH 1 was dry during all of the surveys; the intermittent portion of CH 1 contained water during all of the surveys and was included with the surveys of Weber Creek. Weber Creek and CH 1 are discussed in the jurisdictional delineation prepared by Sycamore Environmental (2009c).

D. Aquatic Habitats within 1 mile of the PSA

Weber Creek at the Green Valley Road Bridge was the only accessible site that provides suitable aquatic habitat for CRLF. Access of Weber Creek required permission and notification of the surrounding landowners. Since 2001, Sycamore Environmental has conducted seven protocol CRLF surveys for other projects within the vicinity of the PSA. In addition, in 2001, Jones and Stokes completed protocol CRLF surveys for the Hwy 50 bridge replacement over Weber Creek located approximately 0.6 miles southeast of the PSA (Jones and Stokes 2002 *in* El Dorado County DOT and FHWA). Protocol CRLF surveys were also conducted for the Sacramento Municipal Utility District (SMUD) Upper American River Project and Pacific Gas and Electric Company (PG&E) Chili Bar Project along Weber Creek and nearby stock ponds. An expanded discussion of these surveys is provided in Section V.C.

V. RESULTS

A. Site Assessment

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

- The PSA is located in the current and historic range of CRLF as shown on Figures 3 and 4 in the Recovery Plan for the California red-legged Frog (USFWS 2002).
- CRLF appears on the USFWS list that identifies federal-listed species that could potentially occur in or could be affected by projects on the Placerville quad or in El Dorado County. The PSA is located within Recovery Unit #1, Sierra Nevada Foothills and Central Valley (USFWS 2002). The Project is located in the Cosumnes River Core Recovery Area (USFWS 2002).
- There are four records for CRLF in western El Dorado County on the CRLF distribution map in *Amphibian and Reptile Species of Special Concern in California* (Jennings and Hayes 1994).
- There are no CNDDB records for CRLF on the Placerville quad.
- The Project site is located within the distribution range of CRLF as illustrated in *California Wildlife: Amphibians and Reptiles* (Zeiner et al. 1988).
- The Project site does not occur within the CRLF critical habitat unit for El Dorado County (USFWS 2006).
- In September 2008, USFWS proposed to increase CRLF critical habitat by approximately 1,354,577 ac, which is over three times the existing designated critical habitat acreage. The PSA does not occur within the proposed critical habitat (USFWS 2008).

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

- There are no known records of CRLF in the PSA.
- The CRLF distribution map in *Amphibian and Reptile Species of Special Concern in California* shows four records for CRLF in western El Dorado County (Jennings and Hayes 1994). These records are listed as "extinct." Two records are based on verified sightings and two are based on museum records.
- No CNDDB records for CRLF occur within one mile of the PSA. The closest known CRLF breeding population is located approximately 13 mi east of the PSA on the Sly Park Quad. Six adults and one tadpole were observed in Spivey Pond within the Weber Creek watershed in 1997. Six adults and two of unknown age were observed at the same location in 2002.
- The CNDDB also has a record for CRLF located approximately 13 miles west of the PSA. This record is from 2005 at Folsom Lake State Recreation Area. One juvenile frog was observed in a small watercourse that drains into Folsom Lake. USFWS has not confirmed the record and it is most likely a misidentification (pers. comm., P. Trenham).
- The California Academy of Sciences Museum of Vertebrate Zoology has no collections of CRLF from El Dorado County (California Academy of Sciences 2000).
- The University of California, Berkeley Museum of Vertebrate Zoology has five specimens of CRLF from El Dorado County (Museum of Vertebrate Zoology 2008). 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.

3. What are the Habitats within the Project Site and within one mile of the Project Boundaries?

a) On-site Terrestrial Habitats

- The majority of the undeveloped uplands in the PSA consist of a canyon live oak community. This community is dominated by canyon live oak (*Quercus chrysolepis*) in the overstory. Other tree species present include interior live oak (*Quercus wislizenii* var. *wislizenii*), black oak (*Quercus kelloggii*), gray pine (*Pinus sabiniana*), and ponderosa pine (*Pinus ponderosa*). California buckeye (*Aesculus californica*) is dominant in the understory. Dominant shrub species present are poison oak (*Toxicodendron diversilobum*) and toyon (*Heteromeles arbutifolia*). The herbaceous layer is sparse and composed of native and non-native annual grasses and forbs.
- White alder-Oregon ash riparian forest occurs along the length of Weber Creek in the PSA. Dominant tree species are white alder (*Alnus rhombifolia*) and Oregon ash (*Fraxinus latifolia*). The dominant shrub species is nonnative, invasive Himalayan blackberry (*Rubus discolor*; Cal-IPC 2006). Other species in the shrub layer include California wild grape (*Vitis californica*), poison oak (*Toxicodendron diversilobum*), and rose (*Rosa* sp.).

b) On-site Aquatic Habitats

- Weber Creek: Weber Creek is a perennial channel that flows west through the central portion of the PSA. Flowing water was present in Weber Creek during the delineation fieldwork and during all of the CRLF surveys. No deep, slow moving backwater or pools are located along Weber Creek in the PSA. Water flow was moderately swift over bedrock and large rocks, and slower over medium rock and mud. Weber Creek is located within a steep ravine in the PSA and lacks significant emergent vegetation and deep still pools required for CRLF breeding habitat. In addition, Weber Creek in the PSA is subject to seasonally high flows during the breeding season that would wash out egg masses and/ or tadpoles.
- Channel 1 (CH1): CH 1 is a partially ephemeral and partially intermittent tributary to Weber Creek that flows south through the PSA. CH 1 is culverted twice under Green Valley Road: once near Oak Knoll Road where CH 1 crosses to the east side of Green Valley Road, and once near Karma Lane where CH 1 crosses back to the west side of Green Valley Road. The portion of CH 1 north of the culvert near Oak Knoll Road is ephemeral and was not flowing during any of the CRLF surveys; the portion of CH 1 south of the culvert near Oak Knoll Road is intermittent and was flowing during all of the CRLF surveys. Hydrology for CH 1 is provided by runoff from the surrounding uplands. The intermittent portion of CH 1 likely maintains intermittent flow due to landscape irrigation runoff and possibly a leaking well or seep. There is no riparian corridor associated with CH 1. CH 1 flows through the canyon live oak forest. Dominant vegetation along CH 1 is greater periwinkle (*Vinca major*), California buckeye, and Himalayan blackberry. Where CH 1 occurs on the east side of Green Valley Road, the Himalayan blackberry is so dense it obscures the channel bed. A few willows (*Salix* sp.) also grow along this portion of the channel. The bed of CH 1 is composed of scoured cobble and small boulders.

c) Off-site Habitats within 1 mile of the PSA:

Land use within one mile of the PSA includes Highway 50, paved roads, undeveloped land, residential development, and commercial development. Biological communities included in these areas are

mixed oak woodland, California annual grassland, and mixed riparian forest. Hangtown Creek occurs north of the PSA and Mound Springs Creek occurs south of the PSA. Sycamore Environmental has conducted previous CRLF surveys in Hangtown Creek and Mound Springs with negative results (refer to Section V.C). Land use designations north of the PSA consist primarily of low and medium density residential. Land use designations south of the PSA consist primarily of low and medium density residential and commercial. An Important Biological Corridor (IBC) overlay follows Weber Creek (El Dorado County 2004).

B. Field Surveys

The results of the eight CRLF protocol surveys are summarized in Table 1. Field survey data sheets are in Appendix B. Photographs are in Appendix C. For each survey, the start and end times were recorded. Water and air temperature were recorded with a thermometer at the beginning of each survey and a wind meter was used to record wind speeds.

No CRLF were detected during any of the protocol field surveys. Pacific treefrogs (*Hyla [=Pseudacris] regilla*) and bullfrogs (*Rana catesbeiana*) were heard or observed in Weber Creek. Minnows were also observed in Weber Creek.

Table 1. Survey Dates, Personnel, and Weather Conditions

Surveyors	Date	Location	Start Time	End Time	Air Temp (° F)	Water Temp (° F)	Wind (mph)	Weather Conditions	Amphibians/ Other Species Observed/ Heard
Leane Scott Jessica Easley	17 April 2008 (Day/ Breeding)	Weber Creek at Green Valley Road	10:45 am	11:45 am	76º F	52º F	0	Sunny and cool	--
Leane Scott Christina Owens	18 April 2008 (Night/ Breeding)	Weber Creek at Green Valley Road	1:23 am	1:33 am	57º F	No	0	Cool and clear	--
Leane Scott Christina Owens	25 April 2008 (Day/ Breeding)	Weber Creek at Green Valley Road	1:45 pm	2:45 pm	73º F	58º F	0	Warm and sunny	Minnows
Leane Scott Christina Owens	25 April 2008 (Night/ Breeding)	Weber Creek at Green Valley Road	8:55 pm	9:05 pm	54º F	No	0	Cool and clear	--
Leane Scott Jessica Easley	6 May 2008 (Night/ Breeding)	Weber Creek at Green Valley Road	8:55 pm	9:15 pm	65º F	No	0	Mild	Pacific treefrog
Leane Scott Jessica Easley	13 May 2008 (Night/ Breeding)	Weber Creek at Green Valley Road	9:09 pm	9:28 pm	68º F	No	0	Cool and clear	Pacific treefrog
Leane Scott Jessica Easley	17 July 2008 (Day/ Non-Breeding)	Weber Creek at Green Valley Road	6:56 pm	7:30 pm	88º F	78ºF	0	Warm and sunny	Bullfrog
Leane Scott Jessica Easley	17 July 2008 (Night/ Non-Breeding)	Weber Creek at Green Valley Road	9:54 pm	10:04 pm	72º F	75º F	0	Cool and calm	Bullfrog

C. Results of Surveys Conducted in the Vicinity for Other Projects

Sycamore Environmental has conducted eight CRLF site assessments and protocol surveys in the vicinity of the Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project PSA. These projects are the Gateway Hotel and Gas Station Project, a site assessment for a section of the El Dorado Trail in Smith Flat, the 1890 Broadway Project, the Home Depot Placerville Project, the Cambridge Pavilion-Cameron Park Project, the Indian Creek Project, the Blairs Lane Bridge (25C-0012) at Hangtown Creek Replacement Project, and the Green Valley Road Bridge (25C-0038) at Tennessee Creek Replacement Project. In addition, Jones and Stokes completed protocol CRLF surveys for the Hwy 50 bridge replacement over Weber Creek. Jones and Stokes also conducted a CRLF site assessment and monitoring for the Dry Creek Bridge Replacement and Green Valley Road/ Lotus Road Intersection Realignment Project. Figure 2 is a map of CRLF survey locations from the above projects. Protocol CRLF surveys conducted for the Sacramento Municipal Utility District (SMUD) Upper American River Project and Pacific Gas and Electric Company (PG&E) Chili Bar Project included protocol CRLF surveys along Weber Creek and nearby stock ponds. The American River Conservancy manages Spivey Pond and the CRLF population located at the site.

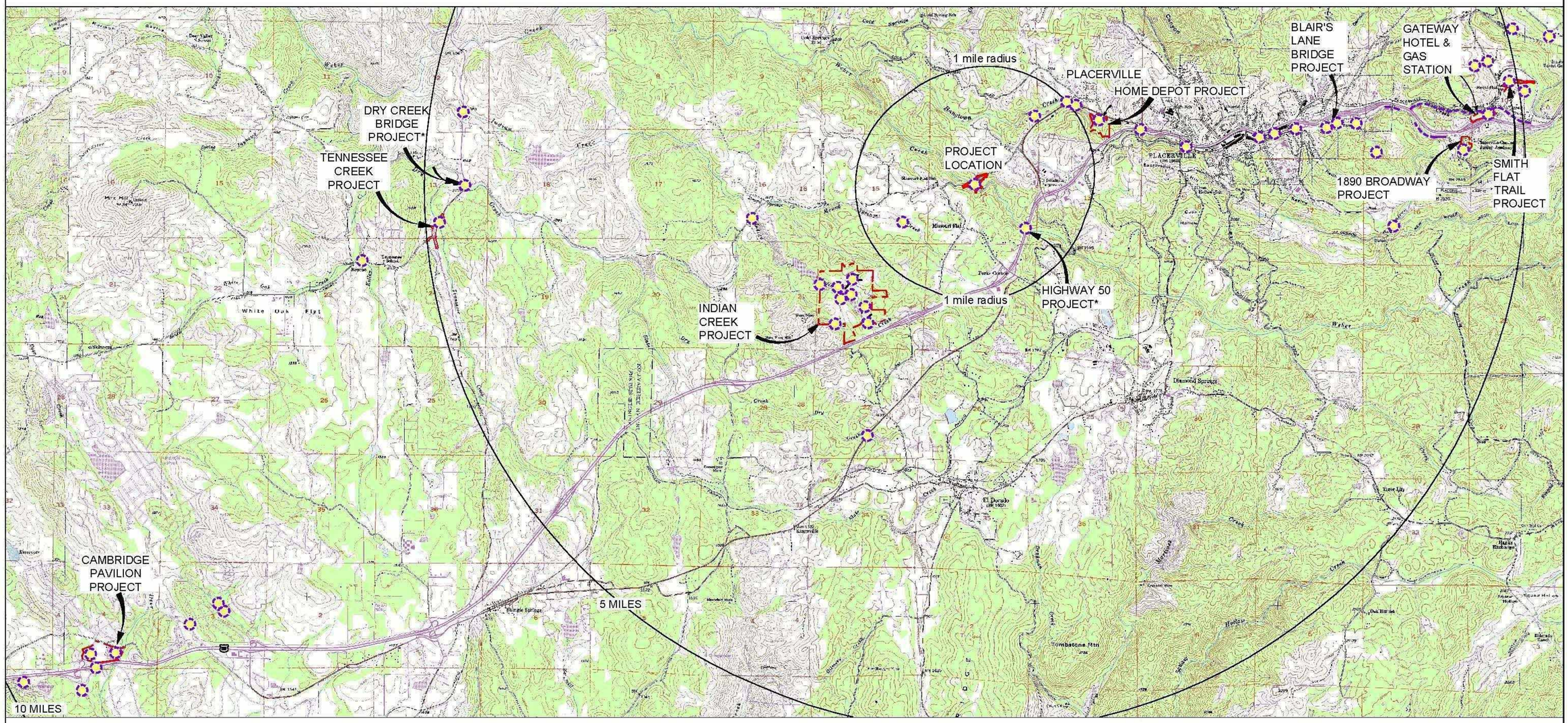
The Gateway Hotel and Gas Station Project (reference no. 1-1-03-I-2579; Sycamore Environmental 2004) is located in the upper headwaters of Hangtown Creek north of Highway 50, approximately 4.7 mi east of the Weber Creek Bridge Replacement Project PSA. No CRLF were detected during any of the surveys in 2004. USFWS concurred that no CRLF were present and the project was not likely to adversely affect CRLF.

In 1999, Sycamore Environmental prepared a CRLF Site Assessment for a section of the El Dorado Trail in Smith Flat (Sycamore Environmental 1999). This project is located approximately 5 mi east of the PSA. No CRLF were observed. Two of the intermittent headwaters drainages of Hangtown Creek drain through the 1999 study area – the ditch along Jacquier Road and the drainage that crosses Old School road. The report was submitted to Mr. Jason Davis, a biologist with USFWS, who conducted a site visit on 26 April 1999 and concluded that the proposed trail project would not affect CRLF.

The 1890 Broadway Project (Sycamore Environmental 2006c) is located in the upper headwaters of Hangtown Creek south of Highway 50, approximately 4.5 mi east of the Weber Creek Bridge Replacement Project PSA. No CRLF were detected during the protocol surveys conducted in 2006.

The Home Depot Placerville Project (Sycamore Environmental 2001, 2006a) is located on Hangtown Creek approximately 1.0 mi northeast of the Weber Creek Bridge Replacement Project PSA. CRLF surveys were conducted in 2001 and 2006 under the 1997 and 2005 guidelines respectively. No CRLF were detected during any of the surveys. In addition, CRLF were not detected during the preconstruction and construction monitoring, which included in-stream fish relocation.

The Cambridge Pavilion-Cameron Project (Sycamore Environmental 2008b) is located on Deer Creek north of Highway 50 approximately 9 mi southwest of the Weber Creek Bridge Replacement Project PSA. No CRLF were detected during the protocol surveys conducted in 2008.



Green Valley Road Bridge (25C-0088)
at Weber Creek Replacement Project
El Dorado County, CA
14 April 2009

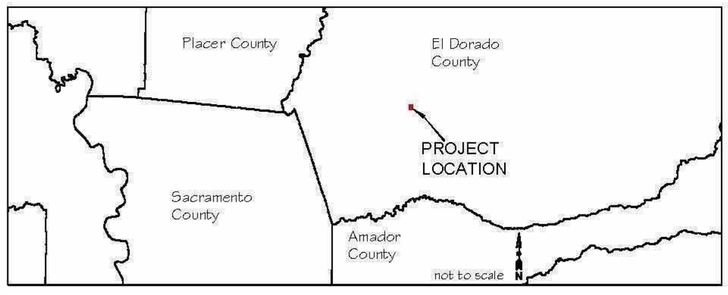
Figure 2. CRLF Surveys In 10 Mile Vicinity

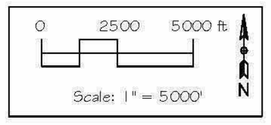
= Project Location

= Survey length

= Survey location

Note: Survey labels marked with an asterisk (*) conducted by Jones & Stokes





Basemap: Clarksville, Placerville, Shingle Springs, and Camino USGS 7.5' Quadrangles, Teale Data Center DRGS

07030_Fig2_CRLF_v4.dwg

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The Indian Creek Ranch Project (Sycamore Environmental 2006b) is located on Indian Creek north of Highway 50 approximately 1.6 mi southwest of the Weber Creek Bridge Replacement Project PSA. Mound Springs at Missouri Flat Road was included in the Site Assessment and Field Surveys for this project. It was determined that no CRLF breeding habitat occurs at this site due to a lack of slow-moving pools and high spring time flows. This site was dry by the July non-breeding season surveys. No CRLF were detected during the protocol surveys conducted in 2006.

The Blairs Lane Bridge (25C-0012) Replacement Project (Sycamore Environmental 2005) is located on Hangtown Creek north of Highway 50 approximately 0.3 mi east of the Weber Creek Bridge Replacement Project PSA. No CRLF were detected during the protocol surveys conducted in 2004.

The Green Valley Road Bridge (25C-0038) at Tennessee Creek Replacement Project (Sycamore Environmental 2008a) is located on Tennessee Creek north of Highway 50 approximately 5 mi west of the Weber Creek Bridge Replacement Project PSA. No CRLF were detected during the protocol surveys conducted in 2006.

Jones & Stokes conducted a CRLF site assessment for the Dry Creek Bridge Replacement and Green Valley Road/ Lotus Road Intersection Realignment Project in El Dorado County in October 1999 (Jones & Stokes 2001) in accordance with the USFWS 1997 guidelines. In addition, the site was monitored for CRLF during construction. The Dry Creek project is located approximately 4.5 mi west of the BSA. No CRLF were detected.

Jones & Stokes conducted protocol CRLF surveys in 2001 for the Highway 50 at Weber Creek Bridge Replacement Project (Jones & Stokes 2002 in El Dorado County DOT and FHWA 2003). The Highway 50 at Weber Creek is located approximately 0.6 miles southeast of the Green Valley Road Bridge Replacement Project. No CRLF were observed during the surveys.

Between 2002, 2003, and 2004, amphibian surveys were conducted for the SMUD Upper American River Project and PG&E Chili Bar Project (Devine Tarbell & Associates, Inc. and Stillwater Sciences 2005). Surveys covered 72 sites ranging from 6,500 ft at the Rubicon Reservoir to 522 ft at the confluence of Weber Creek and the South Fork American River. The surveys were focused between mountain yellow-legged frog, foothill yellow-legged frog, and CRLF. Seven of the sites were identified as CRLF habitat and USFWS 1997 protocol surveys were conducted. The seven sites where CRLF protocol surveys were conducted are approximately 364 ft of the South Fork Rubicon River downstream of Forest Service Road 13N29, approximately 330 ft of Jones Fork Silver Creek at Ice House Road, approximately 0.75 mi of Weber Creek at the South Fork American River, approximately 525 ft of Hastings Creek to the Highway 49 Bridge, approximately 820 ft of Greenwood Creek to the Highway 49 Bridge, and two stock ponds located approximately 0.2 mi south of the South Fork American River. CRLF were not found at any of the survey sites where protocol CRLF surveys were conducted, nor were they found incidentally at any of the other 65 amphibian survey locations (Devine Tarbell & Associates, Inc. and Stillwater Sciences 2005).

In July 1997, a breeding population of CRLF was discovered at Spivey Pond, an in-stream pond on Weber Creek. The discovery was the first significant record of CRLF in the Sierra Nevada in over twenty-five years (American River Conservancy 1999). This site was acquired by the American River Conservancy and is now managed by the Bureau of Land Management (BLM). This site is the only known breeding population of CRLF in the American River Basin (American River Conservancy 1999) and one of five known populations in the Sierra Nevada (American River Conservancy 2006).

The American River Conservancy suggests that Spivey Pond is the only known population of CRLF because of the superior water quality from relatively undisturbed and intact riparian and coniferous forest ecosystems upstream; and because of suitable reproductive habitat (deep pools and emergent woody vegetation) and the absence of other stressors such as non-native predators (American River Conservancy 1999).

Additional breeding habitat was created near Spivey Pond in 2004. The new habitat is a landlocked pond that does not contain bullfrogs or predatory fish. The population of CRLF moved into this new pond approximately 3 to 4 years after it was created, coinciding with the growth of emergent vegetation to levels suitable for CRLF breeding habitat. CRLF are now believed to be breeding at this new site (Pers. comm. Ehrgott 2009).

Spivey Pond is located approximately 5 miles upstream of Weber Dam and Weber Reservoir. The construction of large reservoirs has been implicated in the decline of CRLF because they have facilitated the introduction of non-native predators (American River Conservancy 1999). The population of CRLF at Spivey Pond has likely not moved downstream because Weber Reservoir provides a significant barrier due to the dense populations of bullfrogs and bass (Pers. comm. Ehrgott 2009). Without these predators, the Spivey population of CRLF would likely move downstream to other suitable habitats within Weber Creek (Pers. comm. Ehrgott 2009).

VI. SUMMARY

The PSA is currently unoccupied by CRLF. For the following reasons the Project is not likely to adversely affect CRLF:

- No CRLF were detected during the eight protocol CRLF surveys conducted in the area of the Weber Creek Bridge Project PSA.
- No CRLF were detected in the PSA during any other surveys of the PSA, including the Site Assessment, Biological Assessment, Natural Environment Study, and Preliminary Jurisdictional Delineation (Sycamore Environmental 2009a, b, and c).
- CRLF breed from November through April, when flows are highest in Weber Creek. The high flows would wash out any CRLF egg masses. Weber Creek in the PSA could provide non-breeding habitat for CRLF.
- The closest known record of CRLF is located in Spivey Pond, 13 mi east of the PSA. Spivey Pond is located outside the dispersal range of the PSA and CRLF have not been found dispersing from this site. Weber Reservoir downstream of Spivey Pond is a movement barrier due to the dense populations of CRLF predators.
- Although Spivey Pond is located within Weber Creek, this pond provides significantly different habitat than Weber Creek in the PSA. Spivey Pond contains suitable reproductive habitat, including deep pools and emergent, woody vegetation and no non-native predators. Weber Creek in the PSA has high flows during the breeding season and lacks deep, still pools with emergent, woody vegetation. Bullfrog tadpoles, a predator of CRLF, were also found in the PSA.
- No CRLF have been detected in the vicinity of the PSA during previous protocol CRLF surveys conducted by Sycamore Environmental Consultants, Inc. and Jones & Stokes.
- No CRLF were detected during protocol CRLF surveys, which included Weber Creek, for the SMUD Upper American River Project and PG&E Chili Bar Project.

- The Project site does not occur within the designated CRLF critical habitat unit for El Dorado County (USFWS 2006) or within the proposed CRLF critical habitat (USFWS 2008).

VII. CONCLUSION

Based on the best available scientific and commercial information, the Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project is not likely to adversely affect CRLF. The Project will have no effect on CRLF critical habitat.

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Personal Communications:

Mr. Alan Ehrgott, Executive Director. 9 April 2009. American River Conservancy. Coloma, Ca.

Dr. Pete Trenham. U.S. Fish and Wildlife Service, Sacramento, CA.

IX. PREPARERS

R. John Little, Ph.D., Botany, Claremont Graduate School, Claremont, CA. Over 25 years experience managing and conducting environmental projects involving impact assessment and preparation of numerous NEPA/CEQA compliance documents, Biological Assessments, and Caltrans Natural Environmental Studies. Experience includes conducting special-status plant and wildlife species surveys, jurisdictional wetland delineations, general biological surveys, permitting and biological report preparation. Dr. Little is a trained wetland delineator, an ISA Certified Arborist (WE-1057A), holds a Fish and Wildlife Service recovery permit for vernal pool crustaceans (TE799564-2), and holds a California Department of Fish and Game Scientific Collecting Permit (#801073-04), and DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#09054). Responsibilities: Senior technical lead.

Jeffery Little, A.A., Sacramento City College, Sacramento, CA. Fourteen years experience with preparation of NES, BA, and NEPA/CEQA compliance documents, impact analysis, agency formal and informal consultations and permitting. Project management, conducts special-status species surveys, jurisdictional delineations, and prepares mitigation and monitoring plans. CAD/ GIS Manager responsible for data collection, map creation, impact analyses, and report preparation. He holds a California Department of Fish and Game Scientific Collecting Permit (#801073-03), and a DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#08018). Responsibilities: Project manager.

Christina Owens, M.A., Geography (emphasis in plant ecology), University of California, Davis, CA. Experienced with vernal pool flora. Conducts plant and wildlife surveys, arborist surveys, provides technical support for wetland delineations, biological resource evaluations, certified arborist reports, mitigation plans, and other documents used in the CEQA/NEPA process, queries the California Natural Diversity Database (CNDDB/ RareFind), and researches special-status species for projects. Responsibilities: Conducted CRLF surveys.

Jessica Easley, B.S., Wildlife Biology, University of Montana, College of Forestry and Conservation, Missoula, MT. Conducts plant and wildlife surveys, provides technical support for wetland delineations, biological resource evaluations, mitigation plans, and other documents used in the CEQA/NEPA process, queries the California Natural Diversity Database (CNDDB/ RareFind), and researches special-status species for projects. She is an ISA Certified Arborist (WE-7845A), holds a California Department of Fish and Game Scientific Collecting Permit (#801074-01), and a DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#09051).
Responsibilities: Conducted CRLF surveys.

Leane Scott, B.S., Ecology and Systematic Biology (emphasis in entomology), California Polytechnic State University, San Luis Obispo, CA. Conducts plant and wildlife surveys, arborist surveys, provides technical support for wetland delineations, biological resource evaluations, certified arborist reports, mitigation plans, and other documents used in the CEQA/NEPA process, queries the California Natural Diversity Database (CNDDB/ RareFind), and researches special-status species for projects. ISA She is an ISA Certified Arborist (WE-7368AU), holds a California Department of Fish and Game Scientific Collecting Permit (#801074-02), and DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#09054).
Responsibilities: Conducted CRLF surveys and prepared report.

Jared Birdsall, B.S., Range Science, Brigham Young University, Provo, Utah. Prepares CAD/ GIS maps depicting project locations, waters and wetland locations, project impacts, aerial views of

projects, tree locations, and other functions. Conducts plant and wildlife surveys, uses taxonomic keys for plant identification, queries the California Natural Diversity Database (CNDDB/ RareFind), researches special-status species for projects, and assists in the preparation of reports.
Responsibilities: Figure preparation.

Cynthia Little, Principal, Sycamore Environmental.
Responsibilities: Senior editor, quality control.

Appendix A.

Site Assessment Data Sheet

Green Valley Road Bridge (25C-0088) at Weber Creek
Replacement Project

El Dorado County, CA

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

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

Date of Site Assessment: 4/17/2008
(mm/dd/yyyy)

Site Assessment Biologists:

Scott	Leane	Easley	Jessica
(Last name)	(first name)	(Last name)	(first name)
(Last name)	(first name)	(Last name)	(first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

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

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

GENERAL AQUATIC HABITAT CHARACTERIZATION

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

POND:

Size: _____ Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Perennial ☐ **or Ephemeral** ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix D.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 64 ft

Depth at bank full: 12 ft

Stream gradient: 3-5%

Are there pools (mark one)? ☐YES ☒NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Swift flowing runs; small waterfalls over bedrock; slower, deeper water below bedrock; no still pools; max depth in creek is ~4-5 ft, average depth is ~2 ft.

Vegetation: emergent, overhanging, dominant species: Himalayan blackberry

Substrate: Bedrock and large rocks at the perimeter and medium rock to mud in the center

Bank description: Bedrock and large rocks with some Himalayan blackberry. Steep slopes. Alder riparian corridor.

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

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

* Lacks significant emergent vegetation and deep, still pools

Necessary Attachments:

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

Maps with important habitat features and species location

Appendix B.

Field Survey Data Sheets

Green Valley Road Bridge (25C-0088) at Weber Creek
Replacement Project

El Dorado County, CA

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California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 4/17/2008 (mm/dd/yyyy)

Survey Biologist: Easley (Last name) Jessica (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): (DAY) **NIGHT** (BREEDING) **NON BREEDING**

Survey number (circle one): (1) **2 3 4 5 6 7 8**

Begin Time: 10:45 am **End Time** 11:45 am

Cloud cover: None **Precipitation:** None

Air Temperature: 76º F **Water Temperature:** 52º F

Wind Speed: 0 mph **Visibility Conditions:** Good

Moon phase: Full moon **Humidity:** low

Description of weather conditions: Sunny and cool

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? **YES** (NO)
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
None					

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

* Creek is relatively deep – average 2 ft, but up to 4-5 ft.
* Creek is fast flowing in areas; some runs are slower, but no still water
* Short concrete dam (about 1 ft high) at the western end of the PSA. Water flows over, but there are no pools.

Necessary Attachments:

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

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 4/18/2008 (mm/dd/yyyy)

Survey Biologist: Owens (Last name) Christina (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): **DAY** **(NIGHT)** **(BREEDING)** **NON BREEDING**

Survey number (circle one): **1** **(2)** **3** **4** **5** **6** **7** **8**

Begin Time: 1:23 am **End Time** 1:33 am

Cloud cover: None **Precipitation:** None

Air Temperature: 57º F **Water Temperature:** No access

Wind Speed: 0 mph **Visibility Conditions:** No access

Moon phase: Full moon **Humidity:** Moderate

Description of weather conditions: Cool and clear

Brand name and model of light used to conduct surveys: 6 D-cell maglite

Were binoculars used for the surveys (circle one)**?** **YES** **(NO)**
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
None					

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*
* Did not access Weber Creek due to safety concerns over deep, swift water and steep banks – conducted audio survey.

Necessary Attachments:

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

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 4/25/2008 (mm/dd/yyyy)

Survey Biologist: Owens (Last name) Leane (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): (**DAY**) **NIGHT** (**BREEDING**) **NON BREEDING**

Survey number (circle one): **1** **2** (**3**) **4** **5** **6** **7** **8**

Begin Time: 1:45 pm **End Time** 2:45 pm

Cloud cover: None **Precipitation:** None

Air Temperature: 73º F **Water Temperature:** 58º F

Wind Speed: 0 mph **Visibility Conditions:** Clear

Moon phase: Last quarter **Humidity:** Moderate

Description of weather conditions: warm and sunny

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)**?** **YES** (**NO**)
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
None					

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: Approximately 15 to 30 minnows observed

Other notes, observations, comments, *etc.*

Necessary Attachments:

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

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 4/25/2008 (mm/dd/yyyy)

Survey Biologist: Owens (Last name) Christina (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): **DAY** (**NIGHT**) (**BREEDING**) **NON BREEDING**

Survey number (circle one): **1** **2** **3** (**4**) **5** **6** **7** **8**

Begin Time: 8:55 pm **End Time** 9:05 pm

Cloud cover: None **Precipitation:** None

Air Temperature: 54º F **Water Temperature:** No access

Wind Speed: 0 mph **Visibility Conditions:** No access

Moon phase: Last quarter **Humidity:** Moderate

Description of weather conditions: Cool and clear

Brand name and model of light used to conduct surveys: 6 D-cell maglite

Were binoculars used for the surveys (circle one)**?** **YES** (**NO**)
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
None					

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

* Frequent traffic
* Did not access Weber Creek due to safety concerns over deep, swift water and steep banks – conducted audio survey.

Necessary Attachments:

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

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 5/6/2008 (mm/dd/yyyy)

Survey Biologist: Easley (Last name) Jessica (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): **DAY** **(NIGHT)** **(BREEDING)** **NON BREEDING**

Survey number (circle one): **1** **2** **3** **4** **(5)** **6** **7** **8**

Begin Time: 8:55 pm **End Time** 9:15 pm

Cloud cover: 50% **Precipitation:** None

Air Temperature: 65º F **Water Temperature:** No access

Wind Speed: 0 mph **Visibility Conditions:** No access

Moon phase: New moon **Humidity:** Low

Description of weather conditions: Mild

Brand name and model of light used to conduct surveys: 6 D-cell maglite

Were binoculars used for the surveys (circle one)**?** **YES** **(NO)**
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pacific treefrog	**1-10**	**H**	**Adult**		**100%**

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*
* Did not access Weber Creek due to safety concerns over deep, swift water and steep banks – conducted audio survey.

Necessary Attachments:

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

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 5/13/2008 (mm/dd/yyyy)

Survey Biologist: Easley (Last name) Jessica (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): **DAY** **(NIGHT)** **(BREEDING)** **NON BREEDING**

Survey number (circle one): **1** **2** **3** **4** **5** **(6)** **7** **8**

Begin Time: 9:09 pm **End Time** 9:28 pm

Cloud cover: 10% **Precipitation:** None

Air Temperature: 68º F **Water Temperature:** No access

Wind Speed: 0 mph **Visibility Conditions:** Low – no access

Moon phase: First quarter **Humidity:** Moderate

Description of weather conditions: Cool and clear

Brand name and model of light used to conduct surveys: 6 D-cell maglite

Were binoculars used for the surveys (circle one)**?** **YES** **(NO)**
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pacific treefrog	**5-10**	**H**	**Adult**		**100%**

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

* Treefrogs heard west of bridge along creek
* Did not access Weber Creek due to safety concerns over deep, swift water and steep banks – conducted audio survey.

Necessary Attachments:

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

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 7/17/2008 (mm/dd/yyyy)

Survey Biologist: Easley (Last name) Jessica (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): (**DAY**) **NIGHT** **BREEDING** (**NON BREEDING**)

Survey number (circle one): **1** **2** **3** **4** **5** **6** (**7**) **8**

Begin Time: 6:56 pm **End Time** 7:30 pm

Cloud cover: Clear **Precipitation:** None

Air Temperature: 88º F **Water Temperature:** 78º F

Wind Speed: 0 mph **Visibility Conditions:** Good

Moon phase: Full Moon **Humidity:** Moderate

Description of weather conditions: Warm and sunny

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)**?** **YES** (**NO**)
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	**1**	**O**	**Tadpole**		**100%**

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

Necessary Attachments:

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

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 7/17/2008 (mm/dd/yyyy)

Survey Biologist: Easley (Last name) Jessica (first name)

Survey Biologist: Scott (Last name) Leane (first name)

Site Location: El Dorado, Green Valley Rd @ Weber Creek, T10N, R10E, section 14
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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

Proposed project name: **Green Valley Rd Bridge Replacement**
Brief description of proposed action:

Type of Survey (circle one): **DAY** **(NIGHT)** **BREEDING** **(NON BREEDING)**

Survey number (circle one): **1** **2** **3** **4** **5** **6** **7** **(8)**

Begin Time: 9:54 pm **End Time** 10:04 pm

Cloud cover: Clear **Precipitation:** None

Air Temperature: 72º F **Water Temperature:** 75º F

Wind Speed: 0 mph **Visibility Conditions:** Moderate

Moon phase: Full Moon **Humidity:** Moderate

Description of weather conditions: Cool and calm

Brand name and model of light used to conduct surveys: 6 D-cell maglite

Were binoculars used for the surveys (circle one)**?** **YES** **(NO)**
Brand, model, and power of binoculars: _____

California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	**1**	**O**	**Tadpole**		**100%**

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

* Tadpole observed is likely the same one from the day survey – it is in the same location.

Necessary Attachments:

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

Appendix C.

Photographs

Green Valley Road Bridge (25C-0088) at Weber Creek
Replacement Project

El Dorado County, CA

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Photo 1. View looking north along the Green Valley Road Bridge (25C-0088) at Weber Creek. 27 March 2008.

Photo 2. View looking upstream along Weber Creek. Photo taken downstream of Green Valley Road Bridge. 25 April 08.

Photo 3. Weber Creek with bedrock in the white alder-Oregon ash riparian corridor. View is looking upstream from downstream of the bridge. 25 April 08.

Photo 4. Weber Creek with small rocks and mud in the white alder-Oregon ash riparian corridor. Photo taken downstream of the bridge. 17 July 08.

Photo 5. Weir in Weber Creek located downstream of the bridge near the western PSA boundary. 17 July 08.

Photo 6. View of Weber Creek looking upstream of the bridge. 17 July 08.

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Appendix F Jurisdictional Delineation Report

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Preliminary
Jurisdictional Delineation Report
for the
Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project

El Dorado County, CA

Prepared by:

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

Prepared for:

El Dorado County Department of Transportation
2850 Fairlane Court
Placerville, CA 95667
Phone: 530/ 621-5900
Contact: Matt Smeltzer, P.E., Deputy Director

1 September 2010

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Preliminary Jurisdictional Delineation Report
for the
Green Valley Road Bridge (25C-0088) at Weber Creek
Replacement Project

El Dorado County, CA

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Figures

Tables

Appendices

I. INTRODUCTION

A. Purpose

Sycamore Environmental Consultants, Inc., conducted a jurisdictional delineation of the Green Valley Road Bridge (25C-0088) at Weber Creek project study area (PSA) in El Dorado County, CA. The purpose of the delineation was to identify wetlands and waters in the PSA. Jurisdictional delineations are preliminary until verified by the U.S. Army Corps of Engineers (Corps).

B. Project Location

The approximately 7.68 ac PSA is located along Green Valley Road at Weber Creek in El Dorado County. The PSA is assessors parcel number (APN) 325-110-47 and portions of 325-170-25, -34, -95and 325-110-23, -26, -31, -32, -33, -34, -35, -41, and 325-160-05. The PSA is located on the Placerville USGS topographic quad (T10N, R10E, Section 14; Figure 1) and is in the South Fork American hydrologic unit (hydrologic unit code 18020129). Its centroid is 38.7224º north, -120.8457º west, UTM coordinate 687,300 meters E, 4,288,200 meters N, Zone 10N (1983 NAD). Figure 2 is an aerial photograph of the PSA.

To access the PSA from Sacramento, take U.S. Highway 50 east to the Missouri Flat Road exit (44A) and turn left on Missouri Flat Road. Turn right at El Dorado Road and proceed to Green Valley Road. Turn right at Green Valley Road. The west end of the PSA is approximately 0.2 mi east of the intersection of Green Valley Road and El Dorado Road.

C. Applicant's Representative and Engineer

Applicant:
El Dorado County Dept. of Transportation
2850 Fairlane Court
Placerville, CA 95667
Phone: 530/ 621-5900
Contact: Mr. Matt Smeltzer, P.E.,
Deputy Director

Engineer:
El Dorado County Dept. of Transportation
2850 Fairlane Court
Placerville, CA 95667
Phone: 530/ 621-6593
Fax: 530/ 295-2739
Contact: Mr. Dwight Anderson, P.E.,
Associate Civil Engineer

D. Project Description

El Dorado County Department of Transportation intends to replace a bridge and realign Green Valley Road over Weber Creek.

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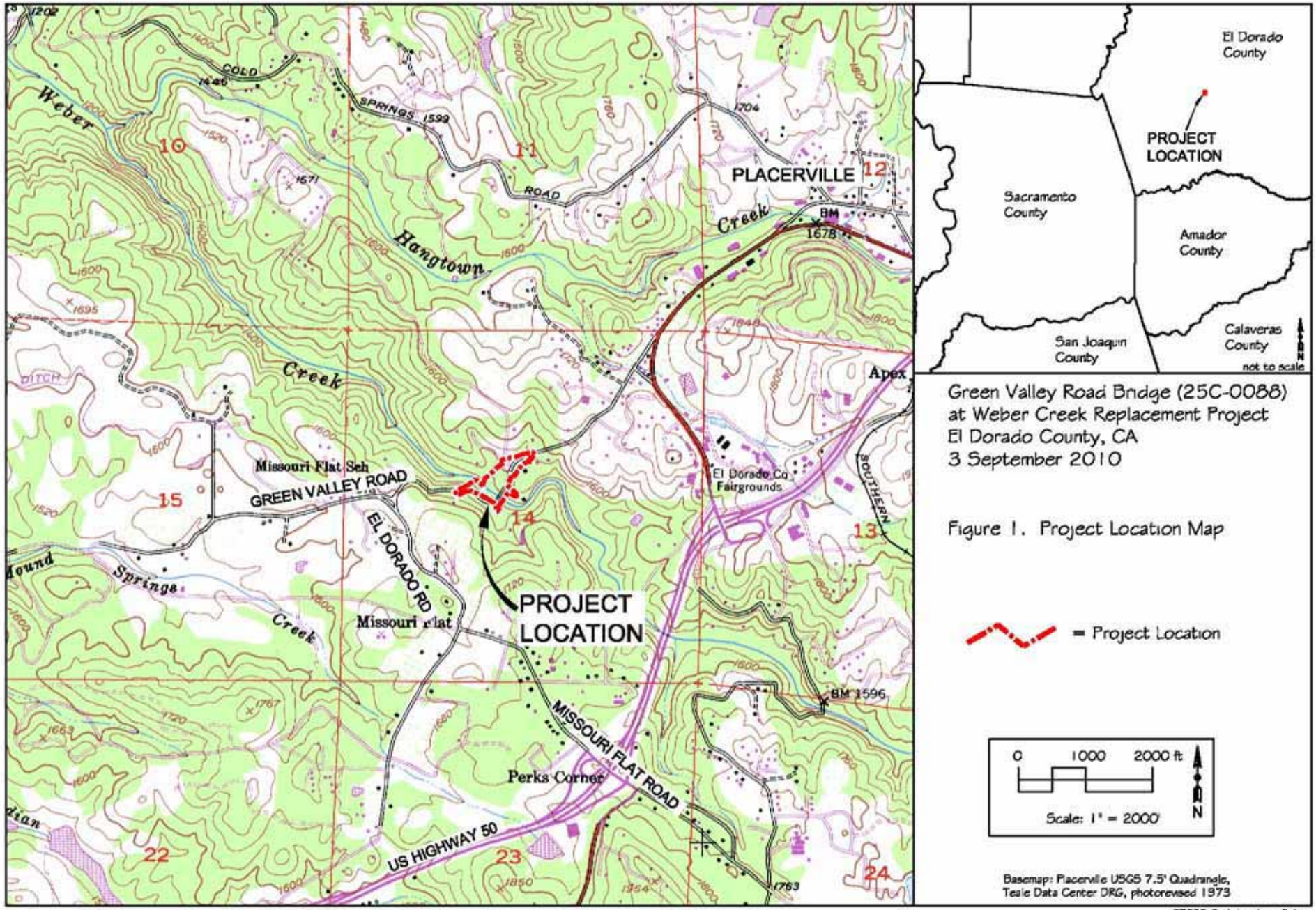

Green Valley Road Bridge (25C-0088)
at Weber Creek Replacement Project
El Dorado County, CA
3 September 2010

Figure 1. Project Location Map

Basemap: Placerville USGS 7.5' Quadrangle,
Teale Data Center DRG, photorevised 1973

07030_Fig1_Location_v2.dwg

11-1188.F.176

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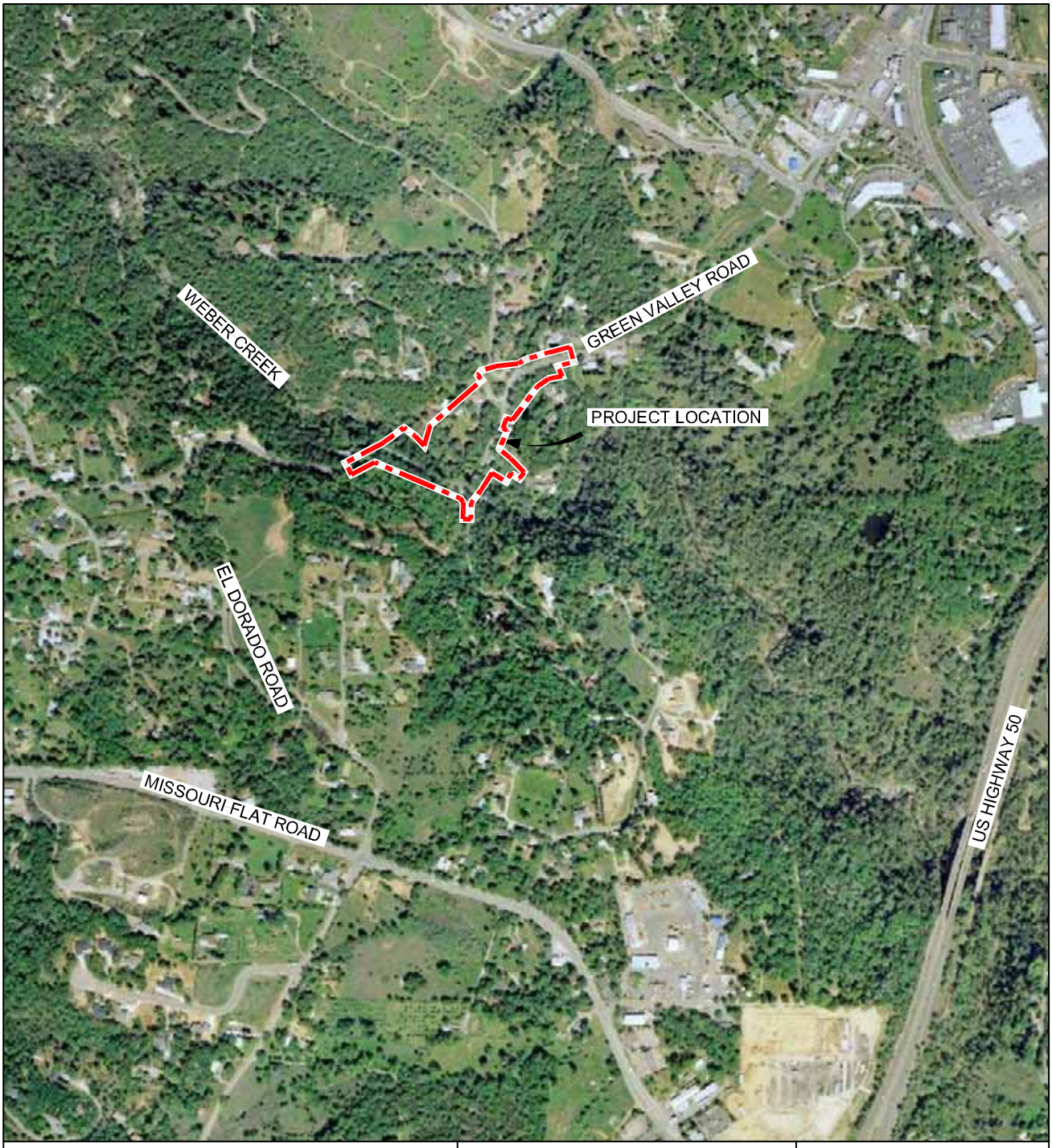

Green Valley Road Bridge
(25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA
3 September 2010

Figure 2.

Aerial Photograph

= Project Location

0 400 800 ft

Scale: 1" = 800'

N

Basemap:
1 April 2004 Image
Copyright 2008. DigitalGlobe,
Inc. All rights reserved.

07030_Fig 2_Aerial.dwg

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II. STUDY METHODS

A. Literature Review

Standard taxonomic references include Abrams (1923-1960); Hickman (1993); Mason (1957); and Munz (1959). Plant community references include California Department of Fish and Game (DFG 2007); Holland (1986); Sawyer and Keeler-Wolf (1995); and Warner and Hendrix (1984). Hydrophytic classifications of plants were determined from the U.S. Fish and Wildlife Service national list of plant species that occur in wetlands (USFWS 1988).

B. Data Sources

Table 1 is a list of data sources used during the preparation of this report.

Table 1. Data Sources

Map References	Source
• Maps, plans, plots or plat submitted by or on behalf of the applicant	El Dorado County Department of Transportation
• Data sheets prepared/submitted by or on behalf of the applicant	Appendix A: Wetland Data Sheets
• Corps navigable waters study	Corps 2008
• U.S. Geological Survey Hydrologic Atlas 1. USGS NHD data 2. USGS 8- and 12-digit HUC maps	USGS 8-digit HUC map
• U.S. Geological Survey map(s)	Placerville USGS quadrangle, photo revised 1973; 1:24,000
• USDA Natural Resources Conservation Service Soil Survey	NRCS (April 1974) and NRCS (March 1992)
• National wetlands inventory map(s)	USFWS Placerville quadrangle (1976)
• State/Local wetland inventory map(s)	None known
• FEMA/FIRM maps	FIRM map, Panel 750 of 1100, Community-Panel Number 060040 0750 B, El Dorado County, CA (unincorporated areas), effective date 18 October 1983
• 100-year Floodplain Elevation is: (e.g. National Geodetic Vertical Datum of 1929)	See FIRM map
• Photographs: 1. Aerial (Name & Date): 2. Other (Name & Date):	ImageConnect Service (GlobeXplorer© 2008) image date 1 January 2007, 1 May 2006, 18 June 2000, and 1 April 2004
• Previous determination(s). File no. and date of response letter	None known

C. Survey Dates and Personnel

Fieldwork for the jurisdictional delineation was conducted by Chuck Hughes, M.S., and Jessica Easley on 6 June 2008. Leane Scott conducted an additional site visit on 5 August 2008.

D. Survey Methods

This jurisdictional delineation report has been prepared in accordance with the Sacramento District minimum standards (Corps 2001), U.S. Army Corps of Engineers Wetland Delineation Manual (Corps 1987), Regulatory Guidance Letter 05-05 (Corps 2005), and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (the supplement; Corps 2006). The supplement is intended to bring the Corps Manual (Corps 1987) up to date with current knowledge and practice in the region. Use of the Corps Manual in combination with the supplement is intended to improve the accuracy and efficiency of wetland delineation procedures in the Arid West Region. The Arid West Supplement is applicable because the PSA experiences hot, dry summers typical of Mediterranean California, dominant vegetation in the area is oak woodland, valley grassland, and chaparral, and the PSA is below the ponderosa pine zone of the Sierra Nevada. All wetland and channel features were identified and mapped.

E. Jurisdictional Data

The jurisdictional delineation was conducted using the Routine On-Site Determination Method (Corps 1987). Jurisdictional data were recorded using the Wetland Determination Data Form for the Arid West Region (Corps 2006). Soil, vegetation, and hydrology data were recorded at the data points. Plant species were identified by Mr. Hughes. Wetland data sheets and data sheets containing information on the channels are in Appendix A. Photographs are in Appendix B. Appendix C is a list of plant species recorded at the data points.

F. Mapping of Data and Calculation of Acreages

The ordinary high watermark (OHWM) of Weber Creek and the centerline of Channel 1 in the PSA were staked by Sycamore Environmental. El Dorado County surveyed the stakes and provided the data in AutoCAD® format. Sycamore Environmental used the OHWM points and a boundary and topographic base map provided by El Dorado County Department of Transportation to create figure 4. Acreages were calculated using AutoCAD® functions. Figure 2 is a 1 April 2004 aerial photo of the PSA and surrounding area (GlobeXplorer© & Partners 2008).

G. Definitions

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency regulate the discharge of dredge and fill material into “waters of the United States” under Section 404 of the Clean Water Act (33 U.S.C. 1344). The Corps issues permits for certain dredge and fill activities in waters of the U.S. pursuant to the regulations in 33 CFR 320-330. The lateral limits of jurisdiction in those waters may be divided into three categories. The

categories include the territorial seas, tidal waters, and non-tidal waters (see 33 CFR 328.4 (a), (b), and (c), respectively). The term "waters of the U.S." is defined at 33 CFR 328.3(a) as:

a. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
1. All interstate waters including interstate wetlands;
2. 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 purpose by industries in interstate commerce;
3. All impoundments of waters otherwise defined as waters of the United States under the definition;
4. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
5. The territorial seas;
6. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.

The term "adjacent" is defined at 33 CFR 328.3(c):

> The term *adjacent* means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are ''adjacent wetlands.''

The limits of jurisdiction are identified in 33 CFR 328.4 as:

b. Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)
c. Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:
    1. Extends to the high tide line, or
    2. When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.
d. Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:
    1. In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
    2. When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
    3. When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

Wetlands, as defined by the Corps for regulatory purposes, are identified using a three-parameter test that considers whether hydrophytic vegetation, hydric soils, and hydrology are present (Corps 1987). Wetlands are "those areas that are inundated or saturated by surface or groundwater 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 (33 CFR 328.3, 40 CFR 230.3). Wetlands also include less conspicuous wetland types such as vernal pools and other seasonal wetlands.

An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow. An intermittent stream has flowing water during

certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow (66 FR 42099).

III. SETTING

The PSA is in the western foothills of the Sierra Nevada. Land use adjacent to the PSA consists of rural residential housing.

A. Topography

Elevation in the PSA ranges from approximately 1,455 to 1,580 ft above sea level. Topography in the PSA slopes uphill toward the northeast and uphill toward the southwest with a deep ravine at Weber Creek.

B. Existing Field Conditions

Field work for the jurisdictional delineation was conducted on 6 June 2008. The historic average precipitation for the National Weather Service Placerville gauge through 6 June (based on a precipitation year beginning 1 July) is 37.75 inches (CDWR 2008). From 1 July 2007 through 6 June 2008 the gauge had received 23.74 inches of rain (CDWR 2008), or 63% of the average accumulated precipitation. The PSA had dryer than average spring hydrologic conditions during the delineation.

C. Vegetation

Canyon live oak (*Quercus chrysolepis*) forest occurs in the undeveloped upland areas of the PSA. A white alder-Oregon ash (*Fraxinus latifolia-Alnus rhombifolia*) riparian forest occurs along the segment of Weber Creek in the PSA. Appendix C is a list of plant species recorded at the soil data points.

D. Soils

Soil pits were dug to observe the chroma, texture, degree of saturation, and other characteristics. Mapped soil units in the PSA are Diamond Springs very fine sandy loam, 9 to 15% slopes and Diamond Springs very rocky very fine sandy loam, 3 to 50% slopes (Figure 3). Soils in the PSA are not listed as hydric or as having hydric inclusions (NRCS 1992). The following descriptions are summarized from NRCS (1974). Reported colors are for moist soil.

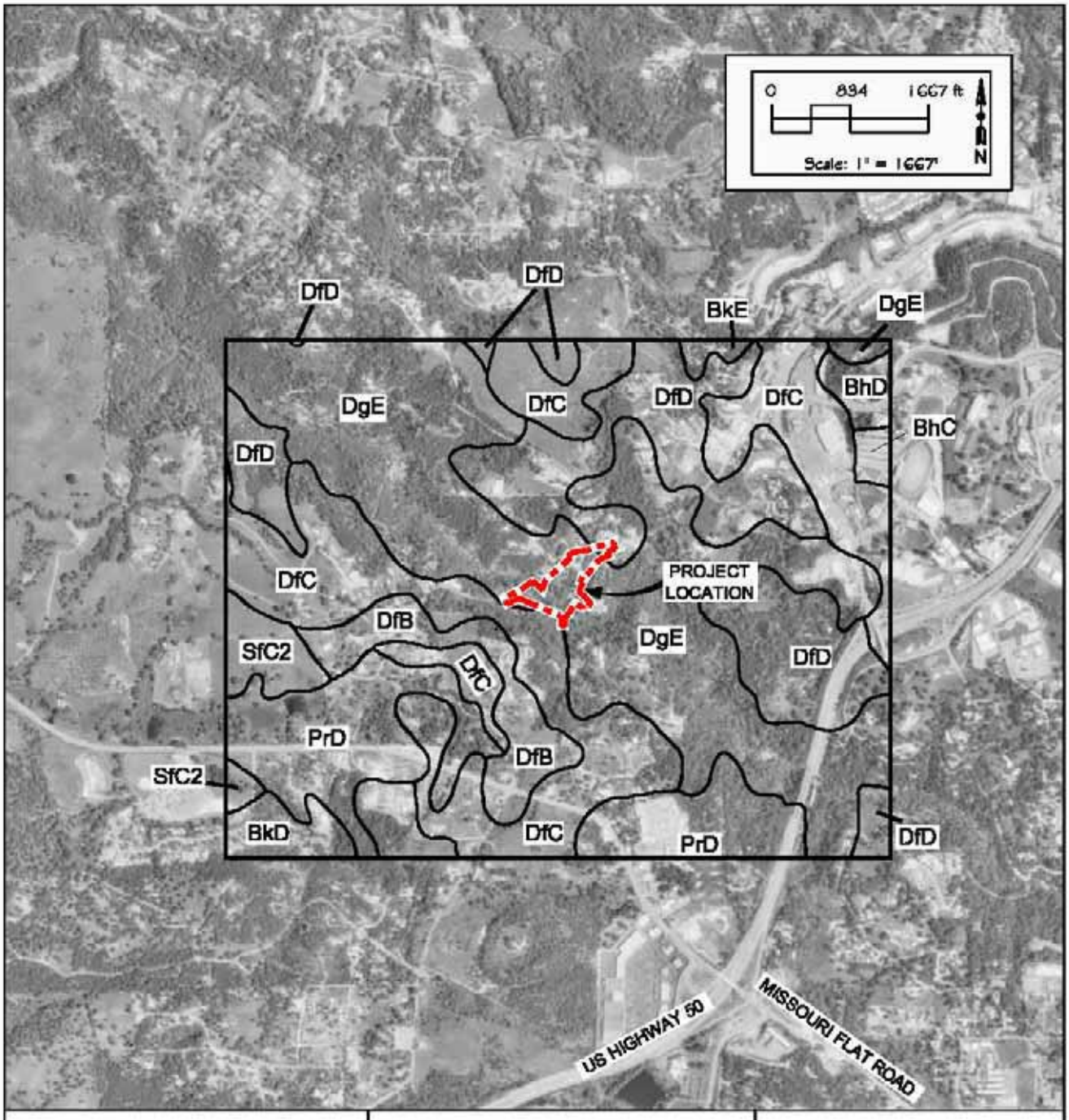

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Figure 4. Soils Map

DfC Diamond springs very fine sandy loam, 9 to 15% slopes

DgE Diamond springs very rocky very fine sandy loam, 3 to 50% slopes

= Project Location

= Soils Boundary

Basemap: USGS DOQ, 5 May 1993.
Soils: Original Soil Survey Published 1974, this information processed 15 Sep. 06;
Soil Data Mart.
USDA Natural Resources Conservation Service
Soil Survey Area: El Dorado Area, CA

07030_Fig4Soils.dwg

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Diamond Springs very fine sandy loam, 9-15% slopes;
Diamond Springs very rocky very fine sandy loam, 3-50% slopes: The Diamond Springs series consists of well-drained soils underlain by fine-grained acid igneous rock at a depth of 24 to 50 inches. A typical profile of Diamond Springs very fine sandy loam, 3-9% slopes, has dark brown (10YR 4/3) medium acid very fine sandy loam from 0 to 3 inches, yellowish brown (10YR 5/4) very strongly acid loam to light clay loam from 3 to 14 inches, light yellowish brown (10YR 6/4) very strongly acid clay loam from 14 to 28 inches, very pale brown (10YR 7/4) very strongly acid clay loam from 28 to 36 inches, very pale brown (10YR 7/4) strongly acid coarse sandy clay loam from 36 to 40 inches, and well-weathered metadacite below 40 inches. Diamond Springs very fine sandy loam, 9-15% slopes, is similar to the profile described above except that it is more sloping. Permeability is moderately slow, surface runoff is medium, and the erosion hazard is moderate. Diamond Springs very rocky very fine sandy loam, 3-50% slopes is similar to the profile described above except 5 to 25 percent of the surface is rock outcrops. Surface runoff is medium to rapid and the erosion hazard is slight to high.

E. National Wetlands Inventory Map

Weber Creek in the PSA is mapped as riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) on the NWI map for the Placerville quad. There are no other wetlands or waters mapped in the in the PSA.

IV. WETLANDS AND WATERS

Channels are shown on Figure 4 and their acreages are in Table 2. On 5 June 2007, the Corps issued a memorandum providing guidance on implementation of the Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (Corps 2007). An evaluation of channels relative to their potential jurisdiction under Section 404 of the Clean Water Act (33 U.S.C. 1344) in light of the June 2007 Rapanos guidance, is in Section V.

A. Waters

Weber Creek: Weber Creek is a perennial channel that flows west through the PSA (Appendix B, photo 1 and 2). Weber Creek was flowing on the day of the delineation and contained pools up to 3 ft deep. Weber Creek is shown as a perennial channel on the Placerville quad map and is mapped as riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) on the Placerville NWI map. Hydrology for CH 1 is provided by flow originating outside and southeast of the PSA. The OHWM determination was based on the presence of defined bed and banks, scour, natural line impressed on the bank, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, wracking, vegetation matted down, bent, or absent, leaf litter disturbed or washed away, and deposition. A white alder-Oregon ash riparian forest occurs along the length of Weber Creek in the PSA.

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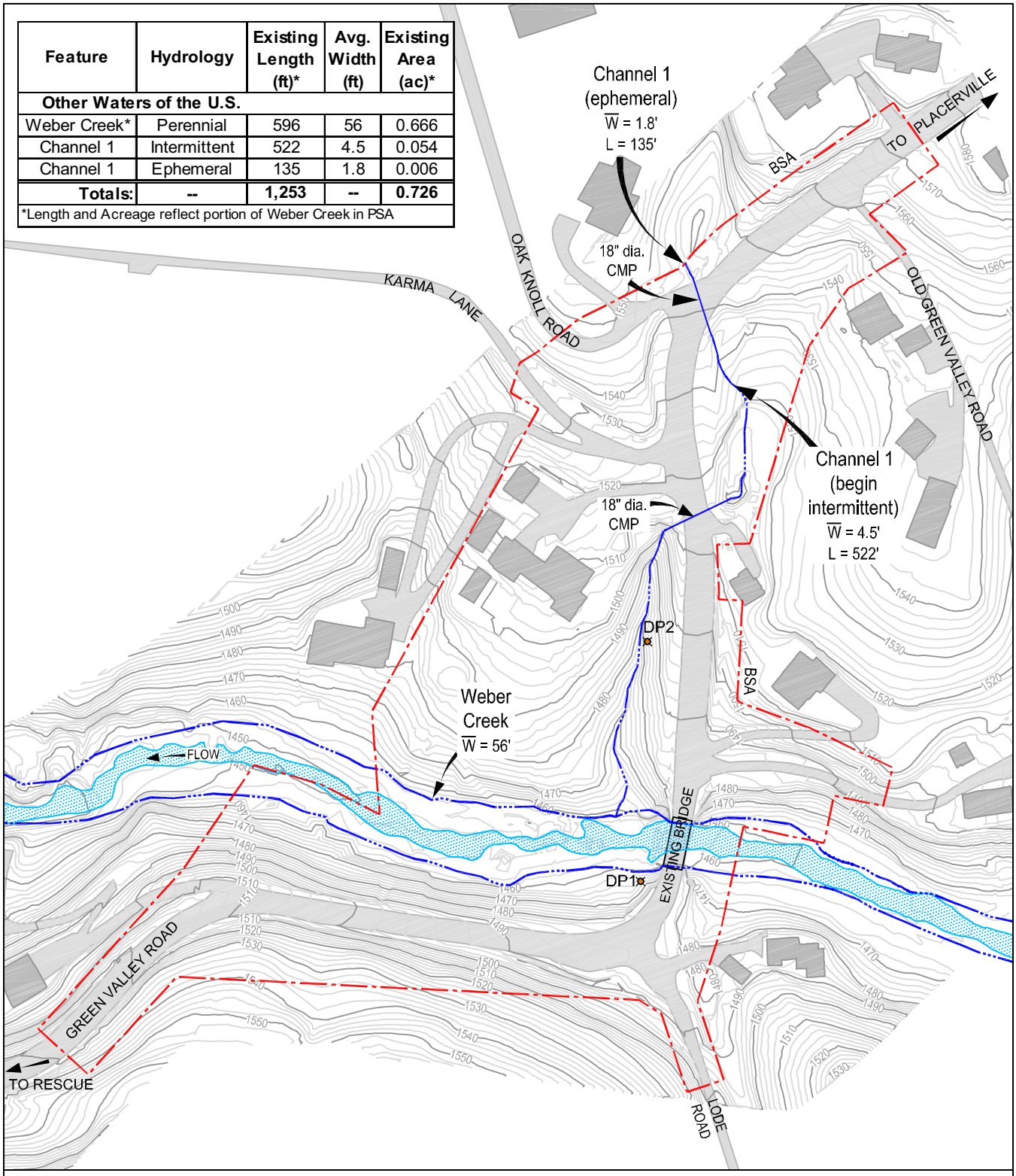
Feature	Hydrology	Existing Length (ft)*	Avg. Width (ft)	Existing Area (ac)*
Other Waters of the U.S.				
Weber Creek*	Perennial	596	56	0.666
Channel 1	Intermittent	522	4.5	0.054
Channel 1	Ephemeral	135	1.8	0.006
Totals:	--	**1,253**	--	**0.726**

*Length and Acreage reflect portion of Weber Creek in PSA



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= Biological Study Area (BSA) (7.68 acres)

= Channels & Weber Creek Ordinary High Water Mark

= Weber Creek Low Flow

DP2 = Data point and number

0 75 150 ft

Scale: 1" = 150'

Elevation in Feet

N

Date	Submittal	Delineators
24 Oct. 08	Original Map	CCH, JAE
3 Sept. 10	Revised BSA	CCH, JAE

Basemap: Study ROW.dwg, Property Net.dwg, Master GVWEB.dwg; El Dorado County Department of Transportation

Figure 4. Preliminary Jurisdictional Delineation Map

07030_NES & Delin Figs-v16.dwg

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Channel 1: CH 1 is a tributary to Weber Creek that enters the PSA on the north side of Green Valley Road near Oak Knoll Road. CH 1 is culverted twice under Green Valley Road: once near Oak Knoll Road where CH 1 crosses to the east side of Green Valley Road, and once near Karma Lane where CH 1 crosses back to the west side of Green Valley Road. The portion of CH 1 north of the culvert near Oak Knoll Road is ephemeral and was not flowing during the delineation (Appendix B, photo 5); the portion of CH 1 south of the culvert near Oak Knoll Road is intermittent and was flowing during the delineation (Appendix B, photo 3 and 6). Hydrology for CH 1 is provided by runoff from the surrounding uplands. The intermittent portion of CH 1 likely maintains intermittent flow due to landscape irrigation runoff and possibly a seep or leaking well. A paved roadside ditch at the eastern end of the PSA drains to the intermittent portion of CH 1. This ditch was dry during the 6 June 2008 delineation fieldwork, but was observed with water during the 5 August 2008 site visit. The lack of water earlier in the season and presence of water late in the season indicates the flow is likely a result of landscape irrigation runoff.

The OHWM determination of CH 1 was based on the presence of scour, bed and banks, natural line impressed on the bank, changes in the character of the soil, destruction of terrestrial vegetation, absence of vegetation, and leaf litter disturbed or washed away. There is no riparian corridor associated with CH 1. Dominant vegetation along CH 1 is greater periwinkle (Vinca major), California buckeye (Aesculus californica), and Himalayan blackberry (Rubus discolor). Where CH 1 occurs on the east side of Green Valley Road, the Himalayan blackberry is so dense it obscures the channel bed (Appendix B, photo 4). A few willows (Salix sp.) also grow along this portion of the channel.

Table 2. Waters

Feature	Hydrology	Length (ft)	Avg. Width (ft)	Area (ac) [1]
Weber Creek	Perennial	596	56	0.666
Channel 1	Intermittent	522	4.5	0.054
	Ephemeral	135	1.8	0.006
Total Waters:	**--**	**1,253**	**--**	**0.726**

[1] Acreages were calculated with AutoCAD® functions.

B. Wetlands

No wetlands occur in the PSA.

V. REGULATORY ANALYSIS AND DISCUSSION

On 5 June 2007, the Corps issued a memorandum providing guidance on implementation of the Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (Corps 2007). The guidance distinguishes among traditional navigable waters (TNW), relatively permanent waters (RPW), and non-relatively permanent waters (non-RPW). The Corps will routinely exercise jurisdiction over traditional navigable waters, relatively permanent waters, and wetlands adjacent to those waters. The jurisdictional determination for non-relatively permanent waters and their adjacent wetlands (if any) will be based on whether there exists a significant nexus with a traditional navigable water. Factors evaluated by the Corps during the significant nexus evaluation will include ecology, hydrology, and the influence of the water on the "chemical, physical, and biological integrity of downstream traditional navigable waters" (Corps 2007). The Corps may exert jurisdiction if the findings of the significant nexus evaluation indicate that "the tributary and its adjacent wetlands are likely to have an effect [on downstream traditional navigable waters] that is more than speculative or insubstantial" (Corps 2007).

The Rapanos memorandum (Corps 2007) does not affect the Court's decision in Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178 (January, 2001) ("SWANCC") which involved statutory and constitutional challenges to the assertion of CWA jurisdiction over isolated, non-navigable, intrastate waters used as habitat by migratory birds. Isolated wetlands and waters are not subject to Clean Water Act jurisdiction. Table 3 applies the "significant nexus" status of waters in the PSA.

Wetland and/or channel features not subject to the Corps' jurisdiction may come under the jurisdiction of DFG and/or the RWQCB. For example, "isolated" wetlands not subject to Section 404 in accordance with the Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178 (January 2001; referred to as the SWANCC decision), are subject to regulation by the RWQCB.

Table 3. Rapanos Guidance Correlation of Wetlands and Waters

Feature	Rapanos Guidance Correlation	Significant Nexus	Jurisdictional Acreage	Non-Jurisdictional Acreage
Weber Creek	RPW	-- [1]	0.666	--
Channel 1	Non-RPW	No	--	0.060
		Total:	**0.650**	**0.060**

[1] The Corps (2007a) has determined that RPWs that are tributaries of TNWs are jurisdictional.

A. TNWs and Adjacent Wetlands

No TNWs or wetlands adjacent to TNWs occur in the PSA (Corps 2008).

B. RPWs that flow directly or indirectly into TNWs

The portion of Weber Creek in the PSA is an RPW. Weber Creek flows directly to the American River (TNW). Weber Creek is an RPW because it flows for more than three continuous months during normal precipitation years. Weber Creek was flowing on the day of the delineation (6 June 2008) of a drier than average year. Weber Creek is mapped on the Placerville quad as a perennial drainage and is classified on the NWI map for the Placerville quad as riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH). Weber Creek drains to the South Fork American River upstream of Lake Folsom. The American River is a TNW from its confluence with the Sacramento River 12 river mi upstream to Bradshaw Road (Corps 2008).

C. Non-RPWs that flow directly or indirectly into TNWs

CH 1 is a non-RPW because it flows for less than three continuous months during normal precipitation years. The ephemeral portion of CH 1 was not flowing during the delineation fieldwork. The intermittent portion of CH 1 likely only maintains intermittent flow as a result of landscape irrigation runoff and would not flow continuously for three months as a result of normal precipitation. CH 1 is an indirect tributary to the American River, the nearest downstream TNW. CH 1 is tributary to Weber Creek. Weber Creek drains into the American River. Weber Creek in the PSA is approximately 40 river mile upstream of the traditionally navigable segment of the American River.

To aid the evaluation of whether CH 1 in the PSA has a "significant nexus" to the American River, the percentage of the American River's watershed in, or draining through, CH 1 was calculated. The approximate watershed of the American River encompasses 1,242,911 ac. The watershed of CH 1 is 26.626 ac. The watershed of CH 1 includes land in and adjacent to the PSA. This acreage represents approximately two hundred thousandths (0.00002) of the watershed of the American River. There is no riparian corridor along CH 1. The capacity of CH 1 to carry or reduce pollutants, flood waters, nutrients, or organic carbon is speculative and insubstantial relative to the nearest TNW. CH 1 does not provide habitat or lifecycle support functions for fish or other aquatic species present in the nearest TNW.

CH 1 does not have a sufficient volume, duration, or frequency of flow to have a significant nexus to the chemical, physical, or biological integrity of the nearest TNW based on the distance of the PSA from the navigable segment of the American River, the negligible contribution of the watershed, the lack of a riparian corridor, and the lack of a relatively permanent hydrologic connection.

D. Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

No wetlands directly abutting RPWs occur in the PSA.

E. Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

No wetlands adjacent but not directly abutting RPWs occur in the PSA.

F. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

No wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs occur in the PSA.

G. Impoundments of waters

There are no impoundments of water in the PSA.

H. Isolated (interstate or intrastate) waters, including isolated wetlands

Wetlands that are isolated and lack an interstate or foreign commerce connection, but otherwise meet the 3-parameter test for wetlands, are considered "isolated wetlands" and are not regulated by the Corps. No isolated wetlands occur in the PSA.

I. Non-jurisdictional waters

A total of 0.060 ac of waters in the PSA do not appear to meet the "significant nexus" criteria for federal jurisdiction under the Clean Water Act.

J. Summary of Jurisdictional Acreages

A total of 0.666 ac of potential jurisdictional waters occur in the PSA.

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VII. REPORT PREPARERS

R. John Little, Ph.D., Botany, Claremont Graduate School, Claremont, CA. Over 25 years experience managing and conducting environmental projects involving impact assessment and preparation of numerous NEPA/CEQA compliance documents, Biological Assessments, and Caltrans Natural Environmental Studies. Experience includes conducting special-status plant and wildlife species surveys, jurisdictional wetland delineations, general biological surveys, permitting and biological report preparation. Dr. Little is a trained wetland delineator, an ISA Certified Arborist (WE-1057A), holds a Fish and Wildlife Service recovery permit for vernal pool crustaceans (TE799564-2), and holds a California Department of Fish and Game Scientific Collecting Permit (#801073-04), and DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#09054).
Responsibilities: Senior technical lead.

Jeffery Little, A.A., Sacramento City College, Sacramento, CA. Fourteen years experience with preparation of NES, BA, and NEPA/CEQA compliance documents, impact analysis, agency formal and informal consultations and permitting. Project management, conducts special-status species surveys, jurisdictional delineations, and prepares mitigation and monitoring plans. CAD/ GIS Manager responsible for data collection, map creation, impact analyses, and report preparation. He holds a California Department of Fish and Game Scientific Collecting Permit (#801073-03), and a DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#08018).
Responsibilities: Project manager.

Chuck Hughes, M.S., Plant Biology, Michigan State University, East Lansing, MI. Prepares biological/botanical resource evaluations, jurisdictional delineations, arborist reports, impact analyses, and mitigation and restoration plans. Serves as assistant project manager. He is an ISA Certified Arborist (WE-6885A) and is listed on a Fish and Wildlife Service recovery permit for vernal pool crustaceans (TE799564-2).
Responsibilities: Field work.

Jessica Easley, B.S., Wildlife Biology, University of Montana, College of Forestry and Conservation, Missoula, MT. Conducts plant and wildlife surveys, provides technical support for wetland delineations, biological resource evaluations, mitigation plans, and other documents used in the CEQA/NEPA process, queries the California Natural Diversity Database (CNDDB/ RareFind), and researches special-status species for projects. She is an ISA Certified Arborist (WE-7845A), holds a California Department of Fish and Game Scientific Collecting Permit (#801074-01), and a DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#09051).
Responsibilities: Field work and report preparation.

Jared Birdsall, B.S., Range Science, Brigham Young University, Provo, Utah. Prepares CAD/ GIS maps depicting project locations, waters and wetland locations, project impacts, aerial views of projects, tree locations, and other functions. Conducts plant and wildlife surveys, uses taxonomic keys for plant identification, queries the California Natural Diversity Database (CNDDB/ RareFind), researches special-status species for projects, and assists in the preparation of reports.
Responsibilities: Figure preparation.

Cynthia Little, Principal, Sycamore Environmental.
Responsibilities: Senior editor, quality control.

Appendix A.

Wetland & Channel Data Sheets

Green Valley Road Bridge (25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA

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WETLAND DETERMINATION DATA FORM – Arid West Region
Routine Wetland Determination
(1 Nov 2006 COE Arid West Wetlands Delineation Manual)

Green Valley Road Bridge at Weber Creek
Project/Site: Replacement Project City/County: El Dorado County Sampling Date: 6 June 2008
Applicant/Owner: El Dorado County State: CA Sampling Point: 1
Investigator(s): Chuck Hughes, M.S. and Jessica Easley Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): linear-linear Slope (%): 10%
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Diamond Springs very rocky very fine sandy loam, 3-50% slopes NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks.)
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ Naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒			
Hydric Soil Present?	Yes ☐	No ☒	Is the sampled area		
Wetland hydrology Present?	Yes ☐	No ☒	within a Wetland?	Yes ☐	No ☒

Remarks:

VEGETATION

Tree Stratum (use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus latifolia*	40	D	FACW
2. *Juglans californica* var. *hindsii*	20	D	FAC
3. *Quercus chrysolepis*	20	D	--
4.			
Total Cover:	80		

Sapling/Shrub Stratum:			
1. *Rosa californica*		D	FAC
2.			
3.			
4.			
5.			
Total Cover:			

Herb Stratum:			
1. *Torilis arvensis*	5	D	--
2. *Galium aparine*	4	D	FACU
3. *Bromus sterilis*	3	D	--
4. *Toxicodendron diversilobum*	1		--
5.			
6.			
7.			
8.			
Total Cover:	13		

Woody Vine Stratum:			
1. *Rubus discolor*	60	D	FACW
2.			
Total Cover:	60		

% Bare Ground in Herb Stratum % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 8 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL Species:	x 1 =	
FACW Species	x 2 =	
FAC Species	x 3 =	
FACU Species	x 4 =	
UPL Species	x 5 =	
Column Totals: (A)	(B)	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of Hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☐

Remarks:

SOIL

Sampling Point: **1**

Profile Description: (Describe the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4							Duff	
4-6	10YR 3/3	100	--				Sandy loam	
>6							Rock	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface water (A1)
- ☐ High water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible-Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region
Routine Wetland Determination
(1 Nov 2006 COE Arid West Wetlands Delineation Manual)

Green Valley Road Bridge at Weber Creek
Project/Site: Replacement Project City/County: El Dorado County Sampling Date: 6 June 2008
Applicant/Owner: El Dorado County State: CA Sampling Point: 2
Investigator(s): Chuck Hughes, M.S. and Jessica Easley Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): linear-linear Slope (%): 10%
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Diamond Springs very rocky very fine sandy loam, 3-50% slopes NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks.)
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ Naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒			
Hydric Soil Present?	Yes ☐	No ☒	Is the sampled area		
Wetland hydrology Present?	Yes ☐	No ☒	within a Wetland?	Yes ☐	No ☒

Remarks: Bank above Channel 1

VEGETATION

Tree Stratum (use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Aesculus californica*	40	D	--
2. *Quercus chrysolepis*	40	D	--
3.			
4.			
Total Cover:	80		

Sapling/Shrub Stratum:			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		

Herb Stratum:			
1. *Vinca major*	60	D	--
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			

Woody Vine Stratum:			
1. *Rubus discolor*	30	D	FACW
2.			
Total Cover:	30		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL Species:	x 1 =	
FACW Species	x 2 =	
FAC Species	x 3 =	
FACU Species	x 4 =	
UPL Species	x 5 =	
Column Totals: (A)	(B)	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of Hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: **2**

Profile Description: (Describe the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	100%	--				Sandy loam	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface water (A1)
- ☐ High water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible-Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available:

Remarks:

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel:	Chuck Hughes, M.S. and Jessica Easley	Channel #:	Weber Creek
Project/ Site:	Green Valley Road Bridge at Weber Creek Replacement Project	Date:	6 June 2008
Applicant/ Owner:	El Dorado County	County, State:	El Dorado Co, CA

CONDITION OF CHANNEL

Natural Feature: ☒ Yes ☐ No
If no, describe:

Width: (ft)	Average width = 68 ft.
Condition of Channel bed:	Bed rock and mud
Condition of Channel banks	Scoured bedrock and rocks
Vegetation Present-Bed:	Minimal vegetation. Sedges and white alder saplings
Vegetation Present-Banks:	White alder, Oregon ash, Himalayan blackberry, sedges, California grape
Water Present:	Yes
Does water flow appear:	☒ Permanent ☐ Intermittent ☐ Ephemeral ☐ Unknown

Evidence of Ordinary High Water Mark: Check All That Apply

☒ Natural line impressed on the bank	☒ Leaf litter disturbed or washed away
☐ Shelving	☒ Scour
☒ Changes in the character of the soil	☒ Deposition
☒ Destruction of terrestrial vegetation	☐ Multiple observed flow events
☒ Presence of litter and debris	☒ Bed and banks
☒ Wracking	☐ Water staining
☒ Vegetation matted down, bent, or absent	☐ Change in plant community
☐ Sediment sorting	

From Corps RGL 05-05

Other comments/ observations:

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel:	Chuck Hughes, M.S. and Jessica Easley	Channel #:	1 (intermittent)
Project/ Site:	Green Valley Road Bridge at Weber Creek Replacement Project	Date:	6 June 2008
Applicant/ Owner:	El Dorado County	County, State:	El Dorado Co, CA

CONDITION OF CHANNEL

Natural Feature: ☒ Yes ☐ No
If no, describe:

Width: (ft)	Average width = 5 ft.
Condition of Channel bed:	Scoured cobble and small boulder
Condition of Channel banks	Scoured soil
Vegetation Present-Bed:	Minimal vegetation is present in the channel bed on the west side of Green Valley Rd; on the east side of Green Valley Rd, the bed is overgrown and obscured by Himalayan blackberry.
Vegetation Present-Banks:	Channel banks on the west side of Green Valley Rd are vegetated with Greater periwinkle, Himalayan blackberry, California buckeye; vegetation on the channel banks on the east side of Green Valley Road also includes a few willows.
Water Present:	Yes
Does water flow appear:	☐ Permanent ☒ Intermittent ☐ Ephemeral ☐ Unknown

Evidence of Ordinary High Water Mark: Check All That Apply

☒ Natural line impressed on the bank	☒ Leaf litter disturbed or washed away
☐ Shelving	☒ Scour
☒ Changes in the character of the soil	☐ Deposition
☒ Destruction of terrestrial vegetation	☐ Multiple observed flow events
☐ Presence of litter and debris	☒ Bed and banks
☐ Wracking	☐ Water staining
☒ Vegetation matted down, bent, or absent	☐ Change in plant community
☐ Sediment sorting	
	From Corps RGL 05-05

Other comments/ observations:
CH 1 intermittent water flow is likely a result of landscape irrigation runoff. CH 1 is intermittent south of the culvert under Oak Knoll Rd. CH 1 also culverted under Green Valley Rd near Karma Ln.

DATA FORM FOR CHANNELS/ WATERS OF THE U.S.

Field Personnel:	Chuck Hughes, M.S. and Jessica Easley	Channel #:	1 (ephemeral)
Project/ Site:	Green Valley Road Bridge at Weber Creek Replacement Project	Date:	6 June 2008
Applicant/ Owner:	El Dorado County	County, State:	El Dorado Co, CA

CONDITION OF CHANNEL

Natural Feature: ☒ Yes ☐ No
If no, describe:

Width: (ft)	Average width = 2 ft
Condition of Channel bed:	Scoured dirt and cobble
Condition of Channel banks	Scoured dirt
Vegetation Present-Bed:	None
Vegetation Present-Banks:	Himalayan blackberry and greater periwinkle
Water Present:	No
Does water flow appear:	☐ Permanent ☐ Intermittent ☒ Ephemeral ☐ Unknown

Evidence of Ordinary High Water Mark: Check All That Apply

☐ Natural line impressed on the bank	☐ Leaf litter disturbed or washed away
☐ Shelving	☒ Scour
☐ Changes in the character of the soil	☐ Deposition
☒ Destruction of terrestrial vegetation	☐ Multiple observed flow events
☐ Presence of litter and debris	☒ Bed and banks
☐ Wracking	☐ Water staining
☒ Vegetation matted down, bent, or absent	☐ Change in plant community
☐ Sediment sorting	
	From Corps RGL 05-05

Other comments/ observations:
CH 1 is ephemeral north of the culvert near Oak Knoll Road.

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Appendix B.

Photographs

Green Valley Road Bridge (25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA

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Photo 1. View looking downstream along Weber Creek from the Green Valley Road Bridge. 25 April 2008.

Photo 2. View looking upstream along Weber Creek from the Green Valley Road Bridge. 25 April 2008.

Photo 3. View looking upstream along the intermittent portion of CH 1 on the west side of Green Valley Road. The pink flags mark the centerline of the channel. 6 June 2008.

Photo 4. View of CH 1 on the east side of Green Valley Road. The bed and banks are obscured by Himalayan blackberry. 6 June 2008.

Photo 5. View of the ephemeral portion of CH 1 on the north side of Green Valley Road. 5 August 2008.

Photo 6. View the culvert outlet (arrow) where CH 1 becomes intermittent. 5 August 2008.

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Appendix C.

Plant Species Recorded at Data Points

Green Valley Road Bridge (25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA

Species	Common Name	Stratum	Indicator
Aesculus californica	California buckeye	T	--
Bromus sterilis	Poverty brome	H	--
Fraxinus latifolia	Oregon ash	T	FACW
Galium aparine	Goose grass	H	FACU
Juglans californica var. *hindsii*	N. California black walnut	T	FAC
Quercus chrysolepis	Canyon live oak	T	--
Rosa californica	California rose	S	FAC
Rubus discolor	Himalayan blackberry	WV	FACW
Torilis arvensis	Torilis	H	--
Toxicodendron diversilobum	Western poison oak	H	--
Vinca major	Greater periwinkle	H	--

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Appendix G Revegetation Planting and Erosion Control Specifications

The Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project (Project) is a federally funded project through the Federal Highway Administration (FHWA). The proposed Project involves the replacement of the existing bridge and realignment of a portion of Green Valley Road. The existing bridge will be removed after construction of the new bridge is complete. 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.

I. Highway Planting

A. General

The work performed in connection with highway planting shall conform to the provisions in Section 20, "Erosion Control and Highway Planting," of the Caltrans Standard Specifications.

B. Highway Planting Materials - General

All native riparian trees in the white alder – Oregon ash riparian forest that are removed will be replaced at a 2:1 ratio. An additional 30 willow and/or alder canes will be planted in the RSP. Ten canyon live oaks will be planted in the disturbed upland areas along Weber Creek and Channel 1. The replacement native trees shall be obtained from a local nursery and planted within the riparian corridor in BSA or at other suitable locations near the BSA.

C. Preparing Planting Areas

Plants adjacent to drainage ditches shall be located so that after construction of the basins, no portion of the basin walls shall be less than 2 ft from the flow line of graded ditches or less than 2.5 ft from the edge of ditches.

D. Preparing Planting Holes

Holes for plants shall be excavated to the minimum dimensions shown on the plans. Holes may be excavated by using a drill or auger.

E. Plant Establishment Work

The plant establishment period shall conform to the provisions in Section 20-4.08 of the Caltrans Standard Specifications, shall be Type 2, and shall be not less than 30 working days from completion of construction.

The Contractor shall determine the methods to be used to plant tree species including transporting, storing if required, planting, guying, and maintaining such trees.

Replacement trees shall be maintained from the time the trees are planted to the time of acceptance of the contract, provided that the contract will not be accepted unless the trees have been satisfactorily maintained for at least 30 working days after planting has been completed. The trees shall be watered and fertilized as necessary to maintain the trees in a healthy condition. Trash, debris, and weeds within basins, including the basin walls, shall be removed and disposed of outside the right-of-way as provided in Section 7-1.13 of the Caltrans Standard Specifications. Weeds shall be removed before they exceed 2 inches in height.

The provisions specified in Section 20-4.07, "Replacement," of the Caltrans Standard Specifications for the replacement of unsuitable plants shall apply to planted trees. The replacement tree for each unsuitable plant shall be the same size and species as the tree being replaced. Said trees shall be planted in individual plant holes at the locations designated by the Engineer within the area of the tree being replaced. Removed unsuitable trees shall be disposed of outside the right-of-way as provided in Section 7-1.13 of the Caltrans Standard Specifications.

F. Environmentally Sensitive Areas

El Dorado County will establish Environmentally Sensitive Areas (ESAs) around the dripline of existing oak and other native trees within the BSA that could be affected by Project construction, but which are not scheduled to be removed. 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 that may be harmful to trees shall be permitted within an ESA. No burning 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. Equipment staging locations will be allowed in areas within the BSA that are not designated ESAs.

II. Erosion Control (Type D)

Erosion control (Type D) shall conform to the provisions in Section 20-3 "Erosion Control," of the Caltrans 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. The application shall consist of the following: fiber, seed, commercial fertilizer, and water.

A. Materials

Materials shall conform to Section 20-2, "Materials," of the Caltrans Standard Specifications and the following:

1. Seed

Seed shall conform to the provisions in Section 20-2.10 "Seed," of the Caltrans Standard Specifications. Individual seed species shall be measured and mixed in the presence of the Engineer.

Seed not required to be labeled under the California Food and Agricultural Code shall be tested for purity and germination by a seed laboratory certified by the Association of Official Seed Analysts, or a seed technologist certified by the Society of Commercial Seed Technologists.

Seed shall have been tested for purity and germination not more than one year prior to application of seed or seed shall be retested at the Contractor's expense.

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). 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	*Festuca californica*	California fescue	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 Section 20-2.02, “Commercial Fertilizer,” of the Caltrans Standard Specifications.

A. Application

The following erosion control mixture in the proportions indicated shall be applied with hydro-seeding equipment within 60 minutes after the seed has been added to the mixture:

Material	Pounds Per Acre (Slope Measurement)
Fiber	2,000
Seed	75
Commercial fertilizer	500

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, such as Weber Creek.

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 DFG.

Specific soil erosion control measures to which El Dorado County has committed include Best Management Practices of the Stormwater Task Force (1993), establishing temporary water bars where necessary during the construction phase to reduce the potential for sheet erosion, and minimizing construction impacts in the BSA. Where necessary, disturbed areas will be revegetated upon completion of construction.

IV. Summary

Erosion control materials will be applied to the area affected by the Green Valley Road Bridge (25C-0088) at Weber Creek Replacement Project. Specifications of the appropriate regulatory and resource agencies will be followed.

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Appendix H Trees in the Biological Study Area

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
2032	Blue Oak	*Quercus douglasii*	13.5	N	
2033	Northern CA black walnut	*Juglans californica* var. *hindsii*	5	N	
2034	Interior live oak	*Quercus wislizenii* var. *wislizenii*	19	N	
2035	Interior live oak	*Quercus wislizenii* var. *wislizenii*	18.5	N	
2036	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11.5	N	
2037	Interior live oak	*Quercus wislizenii* var. *wislizenii*	14.5	N	
2038	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7, 4	Y	
2039	Black oak	*Quercus kelloggii*	13	Y	
2040	Grey pine	*Pinus sabiniana*	14	Y	
2041	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5	Y	
2042	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9, 10, 6, 8.5, 4.5, 10, 4	Y	
2043	Black oak	*Quercus kelloggii*	9	Y	
2044	Fruit	*Prunus* sp.	6, 5	Y	
2045	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6	Y	
2046	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5	Y	
2047	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12, 8	Y	
2048	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6.5	Y	
2049	California buckeye	*Aesculus californica*	5	N	
2050	Canyon live oak	*Quercus chrysolepis*	11, 11	N	
2051	Canyon live oak	*Quercus chrysolepis*	26, 15, 21, 25	N	
2052	Fruit	*Prunus* sp.	4	Y	
2053	Interior live oak	*Quercus wislizenii* var. *wislizenii*	4, 4	N	Y
2054	Canyon live oak	*Quercus chrysolepis*	20	Y	
2055	Canyon live oak	*Quercus chrysolepis*	8	Y	
2056	Oregon ash	*Fraxinus latifolia*	6	N	
2057	Oregon ash	*Fraxinus latifolia*	6.5	N	
2058	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6, 6, 8, 7.5	N	Y
2059	Fruit	*Prunus* sp.	5.5, 4, 4	N	Y
2060	Canyon live oak	*Quercus chrysolepis*	6.5, 13	Y	
2061	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12, 9, 11.5	Y	
2062	Canyon live oak	*Quercus chrysolepis*	7, 8.5, 10.5, 10	N	
2063	Blue oak	*Quercus douglasii*	10	N	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
2064	Blue oak	*Quercus douglasii*	28	Y	
2065	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11.5, 11, 16, 11, 14.5	N	
2066	Grey pine	*Pinus sabiniana*	11.5	N	
2067	Black oak	*Quercus kelloggii*	24	N	
2068	Grey pine	*Pinus sabiniana*	6.5	N	
2069	Grey pine	*Pinus sabiniana*	5	N	
2070	Grey pine	*Pinus sabiniana*	9	N	
2071	Blue oak	*Quercus douglasii*	14, 16.5	Y	
2072	Interior live oak	*Quercus wislizenii* var. *wislizenii*	14, 7	Y	
2073	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10, 16.5	Y	
2074	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9, 4	Y	
2075	California buckeye	*Aesculus californica*	6	Y	
2076	Grey pine	*Pinus sabiniana*	22	Y	
2077	Canyon live oak	*Quercus chrysolepis*	9	Y	
2078	White alder	*Alnus rhombifolia*	21	N	Y
2079	White alder	*Alnus rhombifolia*	16.5	Y	
2080	Oregon ash	*Fraxinus latifolia*	9.5	N	
2081	Oregon ash	*Fraxinus latifolia*	11.5	Y	
2082	Oregon ash	*Fraxinus latifolia*	15	Y	
2083	California buckeye	*Aesculus californica*	8, 5.5	Y	
2084	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12	N	
2085	Oracle Oak	*Quercus* x *morehus*	20	N	
2086	Interior live oak	*Quercus wislizenii* var. *wislizenii*	4	N	
2087	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9.5	N	
2088	Incense cedar	*Calocedrus decurrens*	27	N	
2089	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7.5, 4	N	
2090	Canyon live oak	*Quercus chrysolepis*	8.5	N	
2091	Interior live oak	*Quercus wislizenii* var. *wislizenii*	23	N	
2092	Interior live oak	*Quercus wislizenii* var. *wislizenii*	4, 6	N	
2093	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11.5	Y	
2094	Interior live oak	*Quercus wislizenii* var. *wislizenii*	4.5	Y	
2095	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10.5, 11	Y	
2096	Interior live oak	*Quercus wislizenii* var. *wislizenii*	20	Y	
2097	Interior live oak	*Quercus wislizenii* var.	15.5	Y	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
		wislizenii			
2098	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10	Y	
2099	Black oak	*Quercus kelloggii*	11	Y	
2100	Oregon ash	*Fraxinus latifolia*	5	N	
2101	Black oak	*Quercus kelloggii*	13	N	
2102	Black oak	*Quercus kelloggii*	24.5	Y	
2103	California buckeye	*Aesculus californica*	5, 4.5, 3.5	Y	
2104	Canyon live oak	*Quercus chrysolepis*	8.5	Y	
2105	Interior live oak	*Quercus wislizenii* var. *wislizenii*	15.5	Y	
2106	Canyon live oak	*Quercus chrysolepis*	9.5	N	
2107	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8.5	N	
2108	Canyon live oak	*Quercus chrysolepis*	6	N	
2109	Douglas fir	*Pseudotsuga menziesii*	7.5	N	
2110	Canyon live oak	*Quercus chrysolepis*	6	N	
2111	Canyon live oak	*Quercus chrysolepis*	10.5	N	
2112	Canyon live oak	*Quercus chrysolepis*	9, 13.5	N	
2113	Canyon live oak	*Quercus chrysolepis*	10	N	
2114	Canyon live oak	*Quercus chrysolepis*	8, 9, 10	N	
2115	Canyon live oak	*Quercus chrysolepis*	7.5, 11	N	
2116	California buckeye	*Aesculus californica*	4, 4.5	N	
2117	California buckeye	*Aesculus californica*	5	N	
2118	California buckeye	*Aesculus californica*	5	N	
2119	California buckeye	*Aesculus californica*	5	N	
2120	White alder	*Alnus rhombifolia*	14	N	
2121	White alder	*Alnus rhombifolia*	11.5	N	
2122	White alder	*Alnus rhombifolia*	8, 4	N	
2123	White alder	*Alnus rhombifolia*	9.5	N	
2124	White alder	*Alnus rhombifolia*	13	N	
2125	White alder	*Alnus rhombifolia*	18.5	N	
2126	Canyon live oak	*Quercus chrysolepis*	10.5	N	
2127	Canyon live oak	*Quercus chrysolepis*	9	N	
2128	Canyon live oak	*Quercus chrysolepis*	13.5	N	
2129	Canyon live oak	*Quercus chrysolepis*	15	N	
2130	Canyon live oak	*Quercus chrysolepis*	9	N	
2131	Canyon live oak	*Quercus chrysolepis*	14	N	
2132	Canyon live oak	*Quercus chrysolepis*	12	N	
2133	Canyon live oak	*Quercus chrysolepis*	12, 5.5, 10.5, 9.5, 10, 10.5, 11.5, 10	N	
2134	Canyon live oak	*Quercus chrysolepis*	19	N	
2135	Canyon live oak	*Quercus chrysolepis*	12	Y	
2136	Interior live oak	*Quercus wislizenii* var.	9.5	Y	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
		wislizenii			
2137	Canyon live oak	*Quercus chrysolepis*	12.5	Y	
2138	California buckeye	*Aesculus californica*	4	Y	
2139	Canyon live oak	*Quercus chrysolepis*	16	Y	
2140	California buckeye	*Aesculus californica*	4.5	Y	
2141	California buckeye	*Aesculus californica*	7	Y	
2142	California buckeye	*Aesculus californica*	7, 10	Y	
2143	Canyon live oak	*Quercus chrysolepis*	20	Y	
2144	California buckeye	*Aesculus californica*	4.5	Y	
2145	Canyon live oak	*Quercus chrysolepis*	23.5	Y	
2146	Canyon live oak	*Quercus chrysolepis*	12, 16, 13.5	N	
2147	Canyon live oak	*Quercus chrysolepis*	9	N	
2148	Douglas fir	*Pseudotsuga menziesii*	9.5	N	
2149	Canyon live oak	*Quercus chrysolepis*	10.5	Y	
2150	Canyon live oak	*Quercus chrysolepis*	9	Y	
2151	California buckeye	*Aesculus californica*	6	Y	
2152	Canyon live oak	*Quercus chrysolepis*	10, 12	Y	
2153	Canyon live oak	*Quercus chrysolepis*	11, 6, 7.5, 11.5	Y	
2154	Canyon live oak	*Quercus chrysolepis*	15, 14	Y	
2155	Canyon live oak	*Quercus chrysolepis*	15	Y	
2156	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12	Y	
2157	White alder	*Alnus rhombifolia*	8.5	N	
2158	White alder	*Alnus rhombifolia*	11.5	N	
2159	White alder	*Alnus rhombifolia*	14.5	N	
2160	White alder	*Alnus rhombifolia*	12	N	
2161	White alder	*Alnus rhombifolia*	7.5, 7.5	N	
2162	Oregon ash	*Fraxinus latifolia*	20	N	
2163	White alder	*Alnus rhombifolia*	10.5	Y	
2164	White alder	*Alnus rhombifolia*	20	Y	
2165	White alder	*Alnus rhombifolia*	17	Y	
2166	White alder	*Alnus rhombifolia*	16.5	Y	
2167	White alder	*Alnus rhombifolia*	10, 16	Y	
2168	White alder	*Alnus rhombifolia*	24.5	Y	
2169	White alder	*Alnus rhombifolia*	11	Y	
2170	Oregon ash	*Fraxinus latifolia*	32	Y	
2171	White alder	*Alnus rhombifolia*	12	Y	
2172	Oregon ash	*Fraxinus latifolia*	14.5, 7	Y	
2173	Oregon ash	*Fraxinus latifolia*	7.5	Y	
2174	Oregon ash	*Fraxinus latifolia*	17	Y	
2175	White alder	*Alnus rhombifolia*	15	N	
2176	Oregon ash	*Fraxinus latifolia*	16	Y	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
2177	Oregon ash	*Fraxinus latifolia*	9	Y	
2178	Oregon ash	*Fraxinus latifolia*	17	Y	
2179	Interior live oak	*Quercus wislizenii* var. *wislizenii*	4	Y	
2180	Canyon live oak	*Quercus chrysolepis*	9	Y	
2181	Black oak	*Quercus kelloggii*	23.5	Y	
2182	Black oak	*Quercus kelloggii*	13	Y	
2183	White alder	*Alnus rhombifolia*	7	N	
2184	White alder	*Alnus rhombifolia*	6	N	
2185	White alder	*Alnus rhombifolia*	7.5	N	
2186	White alder	*Alnus rhombifolia*	10.5, 7.5	N	
2187	White alder	*Alnus rhombifolia*	7, 9.5	N	
2188	White alder	*Alnus rhombifolia*	10	N	
2189	White alder	*Alnus rhombifolia*	13	N	
2190	White alder	*Alnus rhombifolia*	9, 10, 6	N	
2191	White alder	*Alnus rhombifolia*	8, 6.5, 6.5	N	
2192	White alder	*Alnus rhombifolia*	9, 9, 16	N	
2193	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8	N	
2194	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10.5, 9	N	
2195	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10	N	
2196	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5, 4	N	
2197	Grey pine	*Pinus sabiniana*	5	N	
2198	Grey pine	*Pinus sabiniana*	22.5	N	
2199	Canyon live oak	*Quercus chrysolepis*	8	N	
2200	Canyon live oak	*Quercus chrysolepis*	13.5	N	
2201	Canyon live oak	*Quercus chrysolepis*	9	N	
2202	Canyon live oak	*Quercus chrysolepis*	10.5, 4	N	
2203	Canyon live oak	*Quercus chrysolepis*	7.5, 9.5	N	
2204	Canyon live oak	*Quercus chrysolepis*	5.5	N	
2205	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7.5	N	
2206	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12	N	
2207	Canyon live oak	*Quercus chrysolepis*	15	N	
2208	Canyon live oak	*Quercus chrysolepis*	17	N	
2209	Interior live oak	*Quercus wislizenii* var. *wislizenii*	20.5	N	
2210	Canyon live oak	*Quercus chrysolepis*	20	N	
2211	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6, 4, 4	N	
2212	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8.5, 6	N	
2213	Canyon live oak	*Quercus chrysolepis*	7.5	Y	
2214	Canyon live oak	*Quercus chrysolepis*	9	Y	
2215	Black oak	*Quercus kelloggii*	12, 11.5	Y	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
2216	Canyon live oak	*Quercus chrysolepis*	5.5	Y	
2217	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10	Y	
2218	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10	Y	
2219	Interior live oak	*Quercus wislizenii* var. *wislizenii*	14	Y	
2220	Ponderosa pine	*Pinus ponderosa*	41	Y	
2221	Canyon live oak	*Quercus chrysolepis*	22.5	Y	
2222	Canyon live oak	*Quercus chrysolepis*	23	Y	
2223	California buckeye	*Aesculus californica*	8.5	Y	
2224	California buckeye	*Aesculus californica*	5.5	Y	
2225	Canyon live oak	*Quercus chrysolepis*	30.5	Y	
2226	California buckeye	*Aesculus californica*	4.5	Y	
2227	California buckeye	*Aesculus californica*	4	Y	
2228	California buckeye	*Aesculus californica*	6.5, 4.5	Y	
2229	Canyon live oak	*Quercus chrysolepis*	25.5	Y	
2230	Canyon live oak	*Quercus chrysolepis*	15	Y	
2231	Canyon live oak	*Quercus chrysolepis*	17	Y	
2232	Canyon live oak	*Quercus chrysolepis*	11.5	Y	
2233	California buckeye	*Aesculus californica*	5.5	Y	
2234	Canyon live oak	*Quercus chrysolepis*	9.5	Y	
2235	Canyon live oak	*Quercus chrysolepis*	10.5	Y	
2236	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5	Y	
2237	Canyon live oak	*Quercus chrysolepis*	9	Y	
2238	Canyon live oak	*Quercus chrysolepis*	11.5, 14, 12	Y	
2239	Oregon ash	*Fraxinus latifolia*	10.5	Y	
2240	Oregon ash	*Fraxinus latifolia*	17	Y	
2241	Oregon ash	*Fraxinus latifolia*	27	Y	
2242	White alder	*Alnus rhombifolia*	13.5, 15.5	Y	
2243	Interior live oak	*Quercus wislizenii* var. *wislizenii*	27.5	Y	
2244	Northern CA black walnut	*Juglans californica* var. *hindsii*	6.5	Y	
2245	Canyon live oak	*Quercus chrysolepis*	14	Y	
2246	Oregon ash	*Fraxinus latifolia*	6, 12.5	Y	
2247	Oregon ash	*Fraxinus latifolia*	10.5	Y	
2248	White alder	*Alnus rhombifolia*	7.5	Y	
2249	Canyon live oak	*Quercus chrysolepis*	15, 10.5, 13, 6.5	Y	
2250	Oregon ash	*Fraxinus latifolia*	7.5, 4	Y	
2251	Oregon ash	*Fraxinus latifolia*	9.5, 17	Y	
2252	Oregon ash	*Fraxinus latifolia*	6	Y	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
2253	Oregon ash	*Fraxinus latifolia*	16.5	Y	
2254	White alder	*Alnus rhombifolia*	12.5	Y	
2255	Oregon ash	*Fraxinus latifolia*	12	Y	
2256	White alder	*Alnus rhombifolia*	10.5, 12	Y	
2257	Willow	*Salix* sp.	6	Y	
2258	California buckeye	*Aesculus californica*	6.5, 5.5, 4, 5.5	Y	
2259	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9.5, 10.5	Y	
2260	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11, 12	Y	
2261	Oregon ash	*Fraxinus latifolia*	10.5	Y	
2262	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10	Y	
2263	Interior live oak	*Quercus wislizenii* var. *wislizenii*	13.5	Y	
2264	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8.5	Y	
2265	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6.5, 7.5	Y	
2266	Canyon live oak	*Quercus chrysolepis*	7, 13, 10	Y	
2267	Canyon live oak	*Quercus chrysolepis*	10.5	Y	
2268	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5	Y	
2269	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6.5	Y	
2270	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5, 5	Y	
2271	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5	Y	
2272	Oregon ash	*Fraxinus latifolia*	12.5	Y	
2273	White alder	*Alnus rhombifolia*	12, 11	Y	
2274	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8, 15.5	Y	
2275	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9, 13.5	Y	
2276	Canyon live oak	*Quercus chrysolepis*	6	Y	
2277	Canyon live oak	*Quercus chrysolepis*	4, 4.5, 6	Y	
2278	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12, 7	Y	
2279	Oregon ash	*Fraxinus latifolia*	8	Y	
2280	Oregon ash	*Fraxinus latifolia*	5.5	Y	
2281	Oregon ash	*Fraxinus latifolia*	15.5, 9, 14, 17	Y	
2282	Canyon live oak	*Quercus chrysolepis*	7.5	Y	
2283	Canyon live oak	*Quercus chrysolepis*	17	Y	
2284	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9.5, 9	Y	
2285	Canyon live oak	*Quercus chrysolepis*	20, 15	N	
2286	Interior live oak	*Quercus wislizenii* var.	6	N	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
		wislizenii			
2287	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5	N	
2288	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10.5	N	
2289	Ponderosa pine	*Pinus ponderosa*	6.5	N	
2290	Interior live oak	*Quercus wislizenii* var. *wislizenii*	21, 11, 13.5	N	
2291	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11, 8.5	N	
2292	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10.5, 6.5, 8.5	N	
2293	Canyon live oak	*Quercus chrysolepis*	18	N	
2294	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11, 11, 5.5, 11, 8	N	
2295	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7.5, 11, 4.5, 12, 5	N	
2296	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7, 10, 20, 13.5	N	
2297	Interior live oak	*Quercus wislizenii* var. *wislizenii*	16.5	N	
2298	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8	N	
2299	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12	N	
2300	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9.5, 5.5	N	
2301	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5, 7.5	N	
2302	Grey pine	*Pinus sabiniana*	39	N	
2303	Interior live oak	*Quercus wislizenii* var. *wislizenii*	13.5, 10.5, 8	N	
2304	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8	N	
2305	Interior live oak	*Quercus wislizenii* var. *wislizenii*	10, 17, 13, 10, 4.5	N	
2306	Grey pine	*Pinus sabiniana*	28	N	
2307	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12, 10.5	N	
2308	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9, 4.5, 5.5	N	
2309	Interior live oak	*Quercus wislizenii* var. *wislizenii*	4, 6.5	N	
2310	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7.5	N	
2311	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5, 5	N	
2312	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11, 9, 5	N	
2313	Interior live oak	*Quercus wislizenii* var.	7.5, 5.5, 9.5, 5.5, 9	N	

Tag Number	Common Name	Scientific Name	Diameter at Breast Height (inches)	Trees >5 in DBH to be Removed for Bridge Replacement	Trees >5 in DBH to be Removed for PUE
		wislizenii			
2314	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6, 5, 4	N	
2315	Blue oak	*Quercus douglasii*	12.5	N	
2316	Grey pine	*Pinus sabiniana*	14	N	
2317	Interior live oak	*Quercus wislizenii* var. *wislizenii*	16.5	N	
2318	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12.5	N	
2319	Willow	*Salix* sp.	12	N	
2320	Grey pine	*Pinus sabiniana*	20.5	N	
2321	Interior live oak	*Quercus wislizenii* var. *wislizenii*	14, 9.5, 13	N	
2322	Interior live oak	*Quercus wislizenii* var. *wislizenii*	8	N	
2323	Interior live oak	*Quercus wislizenii* var. *wislizenii*	9, 6.5, 7, 8.5	N	
2324	Interior live oak	*Quercus wislizenii* var. *wislizenii*	14, 8	N	
2325	Grey pine	*Pinus sabiniana*	9.5	N	
2326	Interior live oak	*Quercus wislizenii* var. *wislizenii*	17, 6.5	N	
2327	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12	N	
2328	Interior live oak	*Quercus wislizenii* var. *wislizenii*	11	N	
2329	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7.5	N	
2330	Interior live oak	*Quercus wislizenii* var. *wislizenii*	12, 6, 13.5	N	
2331	Interior live oak	*Quercus wislizenii* var. *wislizenii*	18.5, 6	N	
2332	Grey pine	*Pinus sabiniana*	5.5	N	
2333	Interior live oak	*Quercus wislizenii* var. *wislizenii*	7.5, 20.5	N	
2334	Interior live oak	*Quercus wislizenii* var. *wislizenii*	18.5	N	
2335	Interior live oak	*Quercus wislizenii* var. *wislizenii*	5.5	N	
2336	Blue oak	*Quercus douglasii*	7	N	
2337	Blue oak	*Quercus douglasii*	6.5	N	
2338	Blue oak	*Quercus douglasii*	7.5	N	
2339	Interior live oak	*Quercus wislizenii* var. *wislizenii*	6.5, 5.5, 9.5, 9, 11.5	N	
2340	Interior live oak	*Quercus wislizenii* var. *wislizenii*	4, 8, 5	N	
2341	Interior live oak	*Quercus wislizenii* var. *wislizenii*	13, 17	N	

dbh = diameter at breast height.

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Appendix I Replanting Plan

I. Introduction

A. Purpose of this Plan

The purpose of this Plan is to describe the approach for restoring disturbed areas along Weber Creek and the types and number of native riparian trees to be replaced. This Plan describes goals, methods of implementation, and monitoring requirements in accordance with guidance provided by the Corps (2004).

B. Responsible Parties

1. Applicant:

El Dorado County Department of Transportation
2850 Fairlane Court
Placerville, CA 95667
Phone: 530/ 621-5900
Contact: Jennifer Maxwell, P.E., Senior Civil Engineer

2. Preparer of mitigation plan:

Sycamore Environmental Consultants, Inc.
6355 Riverside Boulevard, Suite C
Sacramento, CA 95831
Phone: 916/ 427-0703
Fax: 916/ 427-2175
Contact: R. John Little, Ph.D.

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

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

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

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

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

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

C. Project Location

The Project location is described in Section 1.2 of the NES.

D. Jurisdictional Wetlands and Waters of the U.S.

A jurisdictional delineation report was prepared for the Project and is included as Appendix F to this NES. Table 1 provides existing acreages and impacts to potential jurisdictional features in the BSA. The mitigation area is located on the banks of Weber Creek, east and west of the Bridge.

E. Impacts to Jurisdictional Features

The Project will result in permanent impacts of 0.091 ac below the ordinary high water mark (OHWM) of Weber Creek. The Project will result in the temporary disturbance of 0.450 ac of Weber Creek below the OHWM. The Project will result in 0.020 ac of permanent impacts and 0.020 ac of temporary impacts to the intermittent portion of CH 1. The Project will not impact the ephemeral portion of CH 1. Temporary construction impacts to Weber Creek and CH 1 will result from the replacement of the bridge and widening the road. Permanent impacts will result from the placement of approximately 120 ft of CH 1 in a rock-lined ditch and the placement of a portion of the western abutment and RSP within the ordinary high watermark of Weber Creek.

Table 1. Impacts to Potential Jurisdictional Features

Feature	Acreage in BSA	Construction Action	Temporary Impact Acreage	Permanent Impact Acreage
Weber Creek	0.666	Replace bridge, road widening, temporary creek crossing, and RSP (temporary and permanent impacts)	0.450	0.091
CH 1 (intermittent)	0.054	Replace bridge, road widening culvert extension, and rock-lined ditch (temporary and permanent impacts)	0.020	0.020
CH 1 (ephemeral)	0.006	None	0.000	0.000
Total	0.726	--	0.47	0.111

F. Impacts to trees

Based on the current proposed Project map, an estimated 40 native riparian trees in the white alder – Oregon ash riparian forest will be removed by the Project. An additional 1 native riparian tree will be removed as a result of a new Public Utility Easement (PUE) alignment. The utility company will be responsible for impacts to trees as a result of the new PUE.

II. Mitigation Goal

A. Summary of Mitigation Goal

The mitigation goal is to achieve a 60 percent or greater establishment rate for replacement trees.

B. Types of Jurisdictional Habitats Affected and Proposed Mitigation

To mitigate the Project impacts to Weber Creek and CH 1, trees will be replanted along the top of bank. Willow and white alder canes will be planted in the rock slope protection (RSP) within the OHWM of Weber Creek and under the new bridge.

C. Functions and Values of Habitat to be Created/ Enhanced

Weber Creek and the woodland around the creek provide a potential source of water, cover, shade, foraging habitat, migration and dispersal corridors, and nesting and breeding habitat for various species of birds, bats, and terrestrial wildlife.

III. Proposed Mitigation Site

A. Location and Size of Mitigation Area

Trees will be replaced on-site on both the north and south sides of Weber Creek and east and west of the new Green Valley Road Bridge, including the area containing rock slope protection. Bare soil slopes will be hydroseeded with native grasses in accordance with the "Revegetation Planting and Erosion Control Specifications" in Appendix G. Tree planting locations are shown in the Conceptual Planting Plan in Figure 1. Planting of trees in the new PUE will be avoided. Tree planting locations are subject to revisions based on the requirements of the Final Engineering Plans.

B. Existing Functions and Values of Mitigation Area

Weber Creek and CH 1 provide a source of water, foraging habitat, and shelter for various species of birds and terrestrial wildlife.

C. Present and Proposed Uses of All Adjacent Areas

The Green Valley Road Bridge is located in a large lot/ rural residential setting. Uses of adjacent areas will not change as a result of this Project.

IV. Implementation Plan

A. Planting Plan

The plant establishment period shall conform to the provisions in Section 20-4.08 of the Caltrans Standard Specifications, shall be Type 2, and shall be not be less than 30 working days from completion of construction. Native trees will be planted within the limits of the BSA. Planting locations are shown on Figure 1. The species and quantities of native riparian trees to be planted will be a 2:1 ratio of native riparian tree species removed (Table 2). Additionally, thirty willows and white alders will be planted as pole cuttings in the RSP within the OHWM of Weber Creek and under the new bridge. Ten canyon live oaks will be planted in the disturbed uplands along Weber Creek and Channel 1. Trees outside the RSP will be planted from container grown stock of at least one-gallon size. All species in Table 2 are native and commercially available. Each plant will be tagged and numbered after

planting to facilitate annual monitoring and to track the performance of individual plants. Trees will be located on both banks of the Weber Creek, both up- and downstream of Green Valley Road Bridge (25C-0008). Planting of trees in the new PUE will be avoided.

Table 2. Tree Plantings

Removed Tree Species	Number of trees removed from Riparian Corridor	Required Replacement Plantings
Northern CA black walnut (*Juglans californica* var. *hindsii*)	1	2
Oregon ash (Fraxinus latifolia)	24	48
White alder (Alnus rhombifolia)	14	28
Willow (*Salix* sp.)	1	2
Willow & white alder canes	--	30
Canyon live oak (*Quercus chrysolepis*)	--	10
Total	**40**	**120**

The proposed bridge abutments in 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 and white alders can grow in this type of situation. If replacement trees need to be planted in the RSP, pole cuttings of willows and white alders can be planted in these areas.

The Contractor shall determine the methods to be used to plant tree species including transporting, storing if required, planting, guying, and maintaining such trees. When trees are planted, a root stimulant, approved by the Engineer, shall be applied to the roots of each tree in accordance with the printed instructions of the root stimulant manufacturer. A copy of the instructions shall be furnished to the Engineer before applying any stimulant. Root stimulant to be used shall be submitted to the Engineer for approval not less than two weeks prior to its intended use. Root stimulants not approved by the Engineer shall not be used. Watering basins shall be constructed around each planted tree.

Trees shall be maintained from the time the trees are planted to the time of acceptance of the contract, provided however, that the contract will not be accepted unless the trees have been satisfactorily maintained for at least 30 working days after planting has been completed. The trees shall be watered and fertilized as necessary to maintain the trees in a healthy

condition.

B. 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 plants are adequately watered.

C. Site Preparation

The site will be prepared pursuant to the "Revegetation Planting and Erosion Control Specifications" in Appendix G.

D. Fertilization

Two-year release 20N-10P-5K fertilizer tablets (10 grams; available from Forestry Suppliers, Inc. and other suppliers) or equivalent will be used in accordance with the manufacturer's instructions.

E. As-Built Conditions

In accordance with the conditions of the Nationwide Permit, the County will submit an As-Built Report to the Corps after completion of planting. The report will include a map that indicates the locations, numbers, and species of plantings. This information will be used for future monitoring events to locate plants and to assess the success of the mitigation activities. The County will provide the As-Built map to the annual monitor.

Plant locations will be mapped with a global positioning system (GPS) or total station survey equipment. This data will be incorporated into the base topographic map in AutoCAD™. The location of constructed Project features will be shown on the As-Built Map. Significant changes between the proposed plan and the as-built status will be coordinated with, and approved by, the Corps prior to implementation.

V. Monitoring Plan

A. Final Success Criteria

The success criterion for trees is 60 percent establishment after five years, or 72 successful tree plantings.

B. Maintenance Activities During Monitoring Period

1. Control of Invasive Weeds

Weed abundance shall be reported annually in the monitoring report. If established, invasive weeds, rated by Cal-IPC as "High", will be removed in a one foot radius around the riparian trees and disposed of off-site. Invasive weeds will be controlled by manual or mechanical methods.

2. Trash

During annual monitoring events, the monitor will record whether trash needs to be removed. The status will be discussed in the annual monitoring report. The County will be responsible for removing trash from the mitigation areas.

3. Plant Replacement

If it is determined that one of the chosen species performs poorly at the site, a different native species will be chosen for replacement. If the number of surviving trees falls below the minimum success criteria, additional trees will be planted.

C. Monitoring Methods and Annual Report

The mitigation-site will be monitored annually for five years. The diameter at breast height and estimated height of each tree will be recorded. Health and vigor of all trees will be assessed qualitatively. Data collected for each plant will be reported in the annual monitoring report, which shall be distributed to the Corps.

D. Responsible Parties

The County is responsible for financing maintenance and monitoring activities.

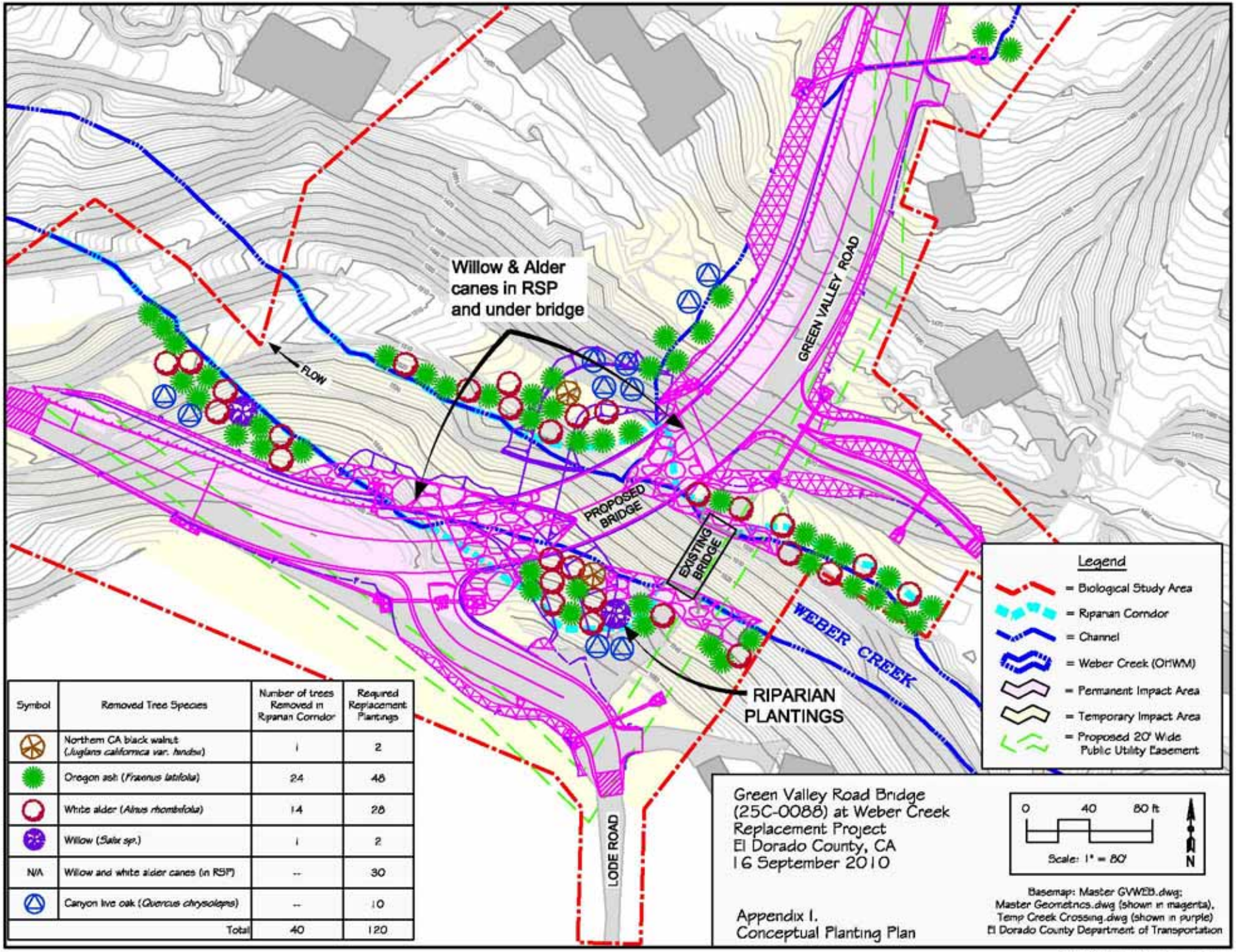
VI. COMPLETION OF MITIGATION

A. Notification of Completion

The County will notify the Corps in its final annual monitoring report that mitigation is completed.

B. Corps Confirmation

The County will assist and facilitate site verification if requested by the Corps.



Symbol	Removed Tree Species	Number of trees Removed in Riparian Corridor	Required Replacement Plantings
	Northern CA black walnut (*Juglans californica var. hindsii*)	1	2
	Oregon ash (*Fraxinus latifolia*)	24	48
	White alder (*Alnus rhombifolia*)	14	28
	Willow (*Salix sp.*)	1	2
N/A	Willow and white alder canes (in RSP)	--	30
	Canyon live oak (*Quercus chrysolepis*)	--	10
	Total	40	120

Green Valley Road Bridge
(25C-0088) at Weber Creek
Replacement Project
El Dorado County, CA
16 September 2010

Appendix I.
Conceptual Planting Plan

0 40 80 ft
Scale: 1" = 80'
N

Basemap: Master GVWEB.dwg;
Master Geometrics.dwg (shown in magenta),
Temp Creek Crossing.dwg (shown in purple)
El Dorado County Department of Transportation

07030_NES 4 Delin Figs-v17.dwg

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Appendix J Biological Assessment

The Biological Assessment is separately bound.

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